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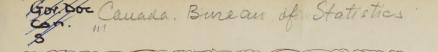
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CANADA 1934



The Official Andbook
of Present Conditions and
Recent Progress

Published by Authority of the Hon. H.H.Stevens, M.P.
Minister of Trade and Commerce



3,6925

DOMINION BUREAU OF STATISTICS

OTTAWA-CANADA

Marketto Hay

FOREWORD



HIS little book is designed to set forth in brief and readable form the recent progress and present condition of the Dominion of Canada. With the development of the Dominion and the growing complexity of its institutions, it is becoming increasingly difficult to deal in small compass with the whole range of its economic and social organization. The current reports of the Dominion

social organization. The current reports of the Dominion Bureau of Statistics, deal in great detail with the subjects of population, production, external and internal trade, transportation, prices, finance, education, hospitals and charitable institutions, criminality, etc., but these detailed publications are intended mainly for those who are specially interested in these particular phases of our national life. Again, the Canada Year Book, which summarizes these and other official publications, is itself too detailed for the average citizen and too expensive for general distribution. The present publication presents the result of an effort to survey the Canadian situation as a whole within a reasonable space, in a popular and attractive format, and at a cost which makes possible a wide distribution.

This handbook is designed to serve two very necessary purposes. To those outside of Canada, it will give a well-rounded picture of the current Canadian situation from Atlantic to Pacific, with sufficient historic and descriptive information as the background of the treatment. In Canada itself, the handbook will be of assistance in the general discussion of the economic situation incidental to our New Year national stock-taking, and will help to provide a better basis of information for dealing with the business problems of 1934.

H. H. STEVENS,

Minister of Trade and Commerce.

Ottawa, January 1, 1934.

NOTE

This handbook has been prepared in the Dominion Bureau of Statistics from material which has, in the main, been obtained from the different Branches of the Bureau. In certain special fields information has been kindly contributed by other Branches of the Government Service.

R. H. COATS,

Dominion Statistician.

CONTENTS

		PAGE
	Foreword	3
	Introduction—Review of the Economic Position of Canada at the Close of 1933	7
	CHAPTER I—The Physiography of Canada and Its Influence on the Settlement of the Country	15
	CHAPTER II—Salient Events of Canadian History to the Outbreak of the Great War	26
7	CHAPTER III—Wealth, Production and Income—Capital Investments.	44
	CHAPTER IV—Population—Births, Deaths and Marriages—Immigration—Aboriginal Races	50
,	CHAPTER V—Agriculture	61
j	CHAPTER VI—The Forest Wealth of Canada—Lumbering—Pulp and Paper	78
	CHAPTER VII—Mines and Minerals	84
	CHAPTER VIII—Water Powers of Canada	91 -
	CHAPTER IX—The Fisheries of Canada	95
	CHAPTER X—The Fur Trade	100 •
3	CHAPTER XI—The Manufactures of Canada	104
4	CHAPTER XII—Construction	112
	CHAPTER XIII—Transportation and Communications	116 -
	CHAPTER XIV—External Trade of Canada—Non-Commodity Exchanges	141
	CHAPTER XV—Internal Trade—Wholesale and Retail Trade—Freight Movements—Stock Markets—Commodity Prices—Cost of Living	,
^	· Chapter XVI—Public Finance	
Å	Course VVII Currency and Banking-Insurance-Loan and Trust	t
	Companies—Miscellaneous	153
	CHAPTER XVIII—Labour	
	CHAPTER XIX—Education—Research Councils—Public Libraries	
	CHAPTER XX—Miscellaneous Statistics	182
		190

LIST OF ILLUSTRATIONS

	1	PAGE		Page
1.	His Excellency, the Earl of Bess-		29. Log-jam on the Montreal River,	80
	borough, Governor General of CanadaFrontis	piece	30. A Diagrammatic View of a Maga-	
2.	The Hon. H. H. Stevens, Minister of	-	zine Pulp Grinder	81
2	Trade and Commerce	16	31. Developments in Canadian Radium Production	85
4.	Mount Robson and Glaciers	19	32. Hydro-Electric Development at	
5.	Grain Land on the Second Prairie	0.0	Shawinigan Falls	92 97
c	A Dairy Farm in the Fertile St.	26	33. The Atlantic Coast Fisheries 34. Halibut Fishing on the Pacific Coast.	99
0.	Lawrence Valley	27	35. Some of Canada's Fur-Bearing	
	The Mace	33	Animals	101 104
8.	Jacques Cartier	34 35	36. Industrial Textiles	104
	Jean Talon	36	38. Trade in Butter and Cheese	107
11.	General Wolfe and General Montcalm	37	39. Rubber Goods Manufacturing	111
12.	Sir Guy Carleton	38 39	40. Road Construction	113
	Lord Durham	41	Granite Quarry	115
	Sir Wilfrid Laurier	43	42. Express Trains of the Canadian	
16.	Terminal Grain Elevators at Port	4.4	National System	118
17	Arthur	44 48	43. The Antenna System and Transmitter Unit, CRCM, Montreal	124
17. 18.	Canada's Five Leading Cities	56-7	44. Canada House, London, England	127
19.	Canadian Indian and Eskimo Groups.	60	45. Trade Between Canada and the	130
20.	A Potato Crop in Blossom, Dominion Experimental Farm, Charlotte-		United Kingdom	136-7
	town, P.E.I	61	47. The Montreal Stock Exchange	141
21.	Chrysanthemums under Glass at		48. A Few of Canada's Financial Institu-	
	the Central Experimental Farm,	63	tions	153
22	Ottawa	00	49. The Canadian Bank of Commerce,	154
	real	64	Toronto	156
23.	The International Plowing Match,		51. A Canadian Textile Plant	168
	Central Experimental Farm, Otta-	69	52. The Royal Ontario Museum, Toronto	176
24.	" Dauntless Derreen"	72	53. Instruction in Aeroplane building at	
25.	A Flock of Young Pekin Ducks,		a Technical School	177
	Central Experimental Farm, Otta- wa.	73	54. Handicrafts in Quebec Homes	178
26.	A Cattle Ranch in Alberta	74	55. Toronto Hospital for Consumptives, Weston, Ontario	182
27.	Grading and Packing Peaches in the	77	56. Royal Canadian Mounted Police at	102
20	Niagara Peninsula, Ontario Stand of Giant Douglas Fir, Chilli-	11	Musical Drill, Ottawa	186
40.	wack Valley, B.C	79	57. H.M.S.C. Vancouver	187

MAPS, DIAGRAMS AND CHARTS

		PAGE	PA	\GE
1.	Chart of World Trade	7	7. Chart showing Number of Fur	* 0.0
2.	Chart of Physical Volume of Business		4 7777	103
	in Canada, 1919-33	13	8. Chart showing the Course of Whole-	
3.	Orographic Map of Canada with		sale and Retail Prices in Canada,	
	Physiographic Divisions	24 - 25		143
4.	Canada by the Proclamation of 1763		9. Chart showing Growth of Life Insur-	
	Canada at Confederation	40		158
	Dot Map of Canada showing Distri-		10. Chart showing the Trend of Employ-	
	bution of Populationfacing	p. 53	ment in Canada, 1926-33	168

INTRODUCTION

The Economic Position of Canada at the close of 1933



Hon. H. H. Stevens, M.P., Minister of Trade and Commerce.

The World Situation as Affecting Canada. -Canada, as a leading trading nation, depending largely upon her export markets to dispose of her surplus food stuffs as well as her surplus forestry and mineral products, is particularly interested in the maintenance of both the volume and the value of world trade. That volume and value has, on the whole, been maintained in 1933 and the long decline that commenced in 1929 has been arrested. In spite of the chaos in the currency systems of the world and in spite of trade restrictions. quotas and limitations placed upon foreign exchange, both gold values and the physical quantity of world trade have in the most recent period been maintained, and have even increased in recent months as compared with the same period of last year, according to the statisticians of the League of Nations. Gold values, indeed, have lost some of their significance as a measure of the international exchange of commodities, owing to the abandonment of the gold

standard by most of the leading trading countries, and it is now of greater significance to say that the current volume of world trade is estimated by the League of Nations to be approximately 70 p.c. of the high level of 1929. The following diagram illustrates these facts.

Again, employment has shown a distinct gain in most of the leading countries of the world, an evidence that industry is gradually adapting itself to the changed conditions under which it is now operating, though doubtless at a heavy sacrifice of money wages and of profits. Thus the



Reproduced from p. 434 of the November, 1933, issue of the League of Nations' Monthly Bulletin of Statistics.

British Department of Labour estimates that 9,925,000 were actually employed in October. 1933, as against 9,388,000 in the same month of 1932, an increase of 537,000. In the United States the American Federation of Labour estimated the number of unemployed in October at 10,076,000 as compared with 10,875,000 in the same month of 1932 and 13,770,000 in March, 1933. In Germany the unemployed were estimated at 3,849,000 in September as compared with 5,103,000 in the same month of 1932, though the decline was partly due to the enrolment of unemployed persons in labour corps. In France and Italy also the figures were lower in September, 1933, than in September, 1932. Thus the actual pressure of unemployment, though still very great, is on the decline.

The greatest difficulties still in the way of world recovery are: first, the excessive economic nationalism evident in the policy of many nations and arising largely out of the disturbed international situation and the fear of war-which latter seems so strange to us on this peaceful North American continent; and, secondly, the enormous burden imposed on the producing class by the debts, both domestic and external, contracted in a period of far higher prices than those prevailing at the present time, when those debts and their interest are due to be paid. One of the most important qualities of any money is that it should be a satisfactory standard of deferred payments, doing substantial justice as between debtor and creditor. Gold, not because of any intrinsic defect, but because the existing supply has been mismanaged and largely sterilized, has, in recent years, failed to meet these conditions, with the result that most of the leading countries of the world have been forced off gold. Yet it is difficult to imagine a future in which gold will not be used in the discharge of international balances, and the British nations at least are resolved to adhere to a gold standard. Their representatives at the World Economic and Monetary Conference last summer declared that "the ultimate aim of monetary policy should be the restoration of a satisfactory international gold standard under which international co-operation would be secured and maintained with a view to avoiding, so far as may be found practicable, undue fluctuations in the purchasing power of gold".

Canada's Position vis-à-vis the United Kingdom and the United States.—In these circumstances, Canada's position is largely to be estimated in terms of her international connections, which are mainly with the Mother Country and the United States. As for the former, the Ottawa Agreements have given us a preferred place in the British markets, such that our exports of Canadian products to the United Kingdom in the first ten months of 1933 have exceeded those of the corresponding period of 1932 by over \$19,500,000. A large Canadian loan of \$75,000,000 was floated in London in August at 4 p.c., and the 4 p.c. loan of 1940-60 was quoted at 104 on Nov. 28, giving a yield of only 3.7 p.c. to the earliest date of redemption.

The British Board of Trade, speaking officially for the world's largest trader, states that although British imports in the first nine months of 1933 showed a decline of 6.2 p.c. in value, as compared with the same period of 1932, the falling off in volume was only 0.3 p.c. Similarly, while there was a decline of 1.0 p.c. in the value of exports of U.K. produce and manufactures in the first nine months of the present year—a decline which has been more than made up by higher figures for October—the volume of exports of British products increased by 0.9 p.c. in the first nine months of 1933 as compared with the corresponding period

of 1932. In each of the four months from July to October inclusive, the value as well as the volume of exports of United Kingdom products has shown an increase as compared with the corresponding month of 1932, and the last three months have each shown an increase of United Kingdom exports as compared with 1931. Again, the Board of Trade's index number of industrial production in the third quarter of 1933 was 96·7 p.c., on the 1924 base, as compared with 87·4 p.c. in the same quarter of 1932—a gain of 9·3 points or 10·6 p.c. Increased British production and British exports has enabled the British to buy more Canadian goods.

As regards our relations with the United States, perhaps the most notable feature is that the heavy burden of exchange payments on account of both principal and interest which darkened our horizon a year ago has been removed by the departure of the United States' Government from the gold standard, so that both our current payments in the republic and our future repayments of capital have been scaled down accordingly. Further, it may be noted that our adverse balance of commodity trade with the United States has been reduced to very small proportions in the latest months, the total adverse balance for the twelve months ended October, 1933, being only \$45,314,000, as compared with \$92,927,000, \$141,720,000 and \$251,128,000 in the corresponding twelve-month periods ended October, 1932, 1931 and 1930, respectively. Up to the present, therefore, the great experiment under way in the United States has been productive of very considerable advantages to her Canadian debtors. If that extraordinarily complex proposition succeeds, it will doubtless bring improvement in both the U.S. and Canada's business situations.

External Trade.—The trade statistics of Canada in recent months show very considerable recovery in value of exports and a lesser recovery in value of imports. Exports of Canadian produce in each of the last seven recorded months from May to November have exceeded those in the corresponding months of 1932 and total imports in each of the months from July to November have been greater than in the corresponding months of 1932.

Exports.—During the twelve months ended November, 1933, exports of Canadian produce amounted to \$523,161,119 as compared with \$504,-448,521 in the preceding twelve-month period ended November, 1932, an increase of \$18,712,598 or 3.7 p.c. While the decline in exports of Canadian produce to countries outside the Empire fell from \$287,245,242 to \$271,978,881, our exports to Empire countries rose from \$217,203,279 in the 1932 period to \$251,182,238 in the 1933 period, an increase of \$33,978,959 or 15.6 p.c. It is thus evident that Canadian exports are more and more "following the flag". Viewed on a percentage basis, the proportions of export trade with the United Kingdom and British Empire show a consistent and very remarkable increase, especially in recent months (see pp. 133-4).

Imports.—In the twelve months ended November, 1933, total imports were \$394,847,970 as compared with \$463,942,840 in the same period of 1932—a decrease of 14·9 p.c. Imports from non-British countries fell from \$334,610,875 to \$263,611,102, while imports from British countries actually increased from \$129,331,965 to \$131,236,868 or by 1·5 p.c. The increased proportion of our import trade carried on with the United Kingdom and the Empire is shown on p. 134.

Trade Balance.—In the twelve months ended November, 1933, there was a favourably visible trade balance of commodity trade (including foreign exports previously recorded as imports) amounting to \$134,144,677 as compared with \$49,005,908 in the corresponding period of 1932. This favourable balance arose almost wholly out of intra-Empire trade, and was exclusive of the large favourable balance arising out of the export of gold bullion refined in Canada.

Agriculture.—While the farmers' difficulties in 1932 were centered around extremely low prices and while their hopes lay in the bountiful crop production of the year, a different situation existed in 1933. Summer drought was widespread across Canada and prolonged in many sections. Even in Eastern Canada, which usually escapes such ravaging influences, the grain and forage crops were greatly reduced in yield and pastures were poor during the summer and autumn seasons. In the Prairie Provinces, the effects of drought were aggravated by the grasshopper scourge. Frost was damaging to the grain crops in southwestern Alberta, northern Saskatchewan, northern Alberta and the Peace River district. Wet harvest weather reduced the grade of wheat in northern sections. The increase in prices of farm commodities helped considerably to offset the lowered production.

An unsatisfactory growing season was accompanied by an advance in farm prices. According to preliminary estimates of the value of 1933 agricultural production, increased prices, as compared with 1932, were reported for all field crops with the exception of alfalfa and sugar beets. As a result of this rise in prices for field crops, the reduced volume of production in 1933 will have a total value not greatly under that of the

bountiful crops of 1932.

After three years of practically continuous decline, the index of wholesale prices of Canadian farm products turned upward in January, 1933. The recovery was slow for some months but was rapid in the months of May and July. The August, September and October indexes showed successive declines but that of November was nearly 5 p.c. higher than in the previous year.

In general, the year 1933 brought a measure of hope to agricultural Canada as prices moved upward after declining steadily for nearly four years. Increased prices, especially when viewed along with decreased production, do not materially lighten the heavy burdens being carried by farmers at the present time, but provide reason for thinking that the tide has finally turned in favour of the primary producers of Canada.

Forestry.—Forestry production has suffered during the depression in common with other branches of primary production, yet forestry production in the twelve months ended October, 1933, as measured by exports, shows slight increases over 1932 in quantity and value in all branches except paper production. Total exports of unmanufactured wood were valued at \$30,421,000 compared with \$28,878,000; exports of manufactured wood were \$24,067,000 compared with \$22,090,000; exports of paper, however, were only \$72,336,000 compared with \$91,318,000. Newsprint paper exports, which constitute the bulk of paper exports, fell from \$87,769,000 to \$69,232,000, or by 21 p.c., though the quantity exported declined only from 1,819,187 tons to 1,780,738 tons or by slightly more than 2 p.c. Newsprint paper, however, is still a very good second to wheat among our exported commodities, with wood-pulp third, wheat flour fourth and sawn lumber fifth. Indeed, from the standpoint of sustained balances of trade, forest products have been more reliable than agricultural products or any other comparable group of commodities. Since 1929, while values and volume of trade have decreased, the contribution of the trade in forest products toward a favourable national balance has exceeded that of any other group. Forest products contributed \$108,632,456 in the twelve months ended October, 1933, to Canada's favourable trade balance of \$125,782,208. Canada, with the largest forest reserves in the Empire, is naturally the Empire's largest producer and exporter of forest products.

The Mineral Industry.—A survey of the Canadian mining industry in 1933 reveals much more encouraging developments and results than those attained in the previous year. Statistics collected from the various divisions of the industry show pronounced advances in production of some of the more important economic minerals. This was especially emphasized in the outputs of base metals such as copper, nickel, lead and zinc.

Factors of an international nature created an all-time high price for gold, in Canadian currency, which resulted in the enlargement of existing ore reserves, stimulated the search for new gold deposits and contributed to the well-being of present producing camps and of the nation at large.

Among the non-metallic minerals, coal production marked a slight decrease from 1932. Asbestos output was higher, and production from the sodium sulphate deposits of Saskatchewan showed considerable improvement. Several other non-metallics showed an upward trend.

Production of structural materials continued to reflect the depressed conditions in the construction and building industries.

Manufactures.—Employment in manufacturing showed decided recovery during 1933 from the low level reached toward the close of 1932 and the beginning of 1933, when shutdowns over the holidays and for inventory purposes caused the usual pronounced curtailment in factory operations. From Jan. 1 to Sept. 1, the movement was uninterruptedly favourable, resulting in the addition of over 61,400 persons to the staffs of the co-operating manufacturers; this number would of course be considerably greater were monthly statistics available from all factories in the Dominion. The recorded increase represented the re-instatement of about twelve persons, on the average, on the payroll of each of the approximately 5,000 reporting manufacturers. During these eight months of steady improvement, the index of employment, based on the 1926 average as 100, advanced from 74.4 on Jan. 1 to 86.8 on Sept. 1, a gain of 12.4 points or 16.7 p.c. (see p. 111). While seasonal losses occurred on Oct. 1 and Nov. 1, these were much smaller than the average declines indicated at those dates in the years since 1920.

During 1933, the most outstanding gains, on the whole, were in textiles, in which steady improvement was indicated from Feb. 1 to Nov. 1. These increases in personnel brought the index on the latter date to 105·4, over seventeen points higher than on Jan. 1, and more than six points above the level of the same date in 1932. It was, indeed, higher than in any month since the early spring of 1930. The lumber, iron and steel, non-ferrous metal, food, leather, pulp and paper, rubber, chemical and mineral product industries also reported substantial gains during 1933.

Railway Operations.—For the first 48 weeks of 1933, ended December 2, total carloadings of revenue freight numbered 1,888,783 as compared with 2.044,293 and 2,406,189 in the corresponding periods of 1932 and 1931 respectively. The decline of 155,510 carloads in 1933 as compared with

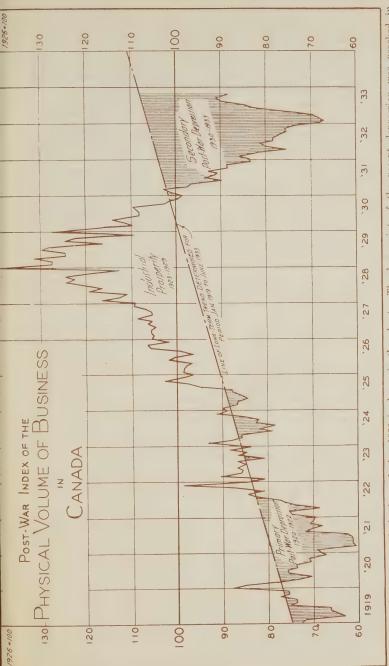
1932 is accounted for by a drop of 54,458 in grain and grain products, 67.379 in merchandise less than carload and 68,688 in miscellaneous. On the other hand, carloadings of live stock are up by 2,579, of coal by 7,545. of coke by 3,446, of lumber by 5,551, of pulp wood by 2,165, of pulp and paper by 5,119 and other forest products by 3,966 and of ore by 4,644 cars. In this connection it should be noted that in October and November the 1933 carloadings have been fairly steadily above those of 1932, while the gross earnings have closely approached those of 1932, the difference being due to proportionately more lower class freight.

For the first nine months of 1933, the gross operating revenues of the two great railway systems were \$193,644,578 as compared with \$216,560,577 in the same period of 1932, or a decline of \$22,916,000. Operating expenses were also reduced from \$195,706,962 to \$174,967,304 or by about \$20,740,000. The result was that net operating revenues for the first nine months of 1933 stood at \$18,677,274 as compared with \$20,853,615 in the same period of 1932. The smallness of the harvest has been one important factor in reducing railway earnings in the latter months of 1933, while co-operation between the two great railway systems has been a factor in keeping down the operating expenses.

Prices.—In March, 1933, wholesale prices began the first appreciable advance that has occurred since 1929. It came after an almost unbroken decline of 42 months during which time the Dominion Bureau of Statistics' general index number of wholesale prices fell by roughly 30 p.c. Prices in some commodity groups such as farm products had dropped more than double this amount, while manufactured goods showed decreases of less than 20 p.c. in many cases. Such an uneven recession in prices worked extreme hardships because it seriously disturbed the relative purchasing power of different economic groups in the country. Recent price advances have done something towards the restoration of more normal price relationships, although great disparities still exist. The general wholesale index has risen about 8 p.c. between February and November, while farm products mounted 25 p.c. in this period as compared with 7 p.c. for fully and chiefly manufactured materials.

Retail Trade.—Retail trade in 1933, as shown by the sales of 83 chain store systems, and 25 department stores, was maintained at a somewhat lower level than in 1932, particularly during the first quarter. An improvement, which was first apparent in April, gradually increased until September when the index showed a gain over the corresponding month of the previous year for the first time in the 5-year period covered by the index. A slightly less than seasonal advance occurred in October when the general index of retail sales was 88.1 as compared with 85.3 in September, 1933, and 91.8 in October, 1932 (January, 1929=100). Index changes for individual groups were more or less comparable with the changes in the general index.

Public Finance.—The latest returns of current revenue must be considered fairly satisfactory. The total current revenue for the month of November, 1933, was \$27,768,538 as compared with \$24,309,024 in the same month of 1932, being an increase of \$3,459,514 for the month. This increase was mainly due to increased revenue from the excise war taxes particularly. While the total revenue for the first eight months of the current fiscal year was \$216,902,284 as compared with \$222,324,185 for the same months of the preceding year, or a reduction of \$5,421,901, it is to



The marked recovery in business during 1933 is shown in the chart. The low point of the recent depression was reached in February; the index, which was 67 in February and 88.2 in October thus shows a net gain of 31.5 p.c. in the period. The level at October being only about 12 p.c. below the average for the base year 1926. Contrary to the general impression, business operations were not at so low a percentage of the 1926 level in the first quarter of the present year as in the primary post-war period of depression culminating in 1921. The index is computed from 45 significant factors comprising manufacturing, mining, construction, power and distribution data.

be expected that this reduction will be offset by the end of January and that the fiscal year as a whole will show a distinct increase in current revenue as compared with the preceding year,

As regards expenditure, the total current expenditure in the first eight months of the current fiscal year was \$244,821,608 as compared with \$248,787,587 in the same months of last year. The grand total expenditure including special and capital expenditure aggregates this year are \$274,880,754 as compared with \$287,513,962, a reduction of over \$12,600,000. Further, loans and advances this year to Nov. 30, were \$37,057,159 as compared with \$58,495,969 in the same months of 1932.

Banking and Insurance.—"In a time of universal economic difficulty," say the Macmillan Commission, "the Canadian banks have stood firm and have continued to render to the people of the Dominion the same high quality and the same wide variety of services as in the past". This truth has certainly been brought home in 1933 by the contrast between our banking experience and that of the neighbouring Republic. At no time throughout the depression has any depositor of a Canadian bank been asked even to wait for his money, though most of it is in deposits that are legally payable only after notice. Again, although the savings deposits of the people have been drawn upon substantially for the new Dominion loan, the aggregate on Oct. 31 was approximately \$1,350,000,000, about \$26,550,000 lower than at the end of 1932.

As regards life insurance, the larger companies doing about 84 p.c. of the business in Canada report that in the first ten months of 1933 they have written \$290,000,000 of new business, indicating an average rate at which new business is being written in Canada in 1933 of over \$1,100,000 per day.

Summary.—In nearly all branches of the economic life of the Dominion, the latest records indicate substantial and increasing progress. Agriculture, it is true, is still heavily handicapped by the determination of various leading foreign countries to produce their own food stuffs at high costs rather than import our surplus at much lower prices. Even in agriculture, however, there are improving prices assisted to some extent by a preference to our wheat in the markets of the U.K. The prospects in forestry and in minerals are distinctly favourable, while the price of fish has shown some improvement. Manufactures are giving employment to larger numbers, and construction for the first time compares favourably with the same period of 1932. Exports and imports also are higher than in the same period of 1932, and railway traffic and railway earnings are showing distinct improvement. Employment generally is increasing and the production of hydro-electric power has attained a new high record. Our external trade is benefiting both by the evident recovery in the U.K. and by the increase of purchasing power in the U.S.A.

On the financial side, our banking system is as sound as any in the world. While our debts are heavy, they are largely due to our own people, and the burden of those which are due in the United States has been greatly lightened by the deliberate policy of the present United States Administration. The United Kingdom, again the chief centre of world finance, is lending us money at low rates of interest, and various reductions of interest on domestic loans will be effective in the coming year. On the whole, the present economic trend is distinctly upward, and there does not seem to be any economic reason for anticipating a reversal of this trend in 1934.

CHAPTER I

PHYSIOGRAPHY OF CANADA AND ITS INFLUENCE ON THE SETTLEMENT OF THE COUNTRY¹

Introduction

The area of the Dominion of Canada is about 3,684,000 square miles, which is somewhat greater than that of the United States including Alaska, and rather less than that of Europe.

The central part of Canada is underlain by a great expanse of very ancient hard crystalline rock known to geologists as the Canadian Shield. This has an area of about 2,000,000 square miles, or more than half that of the whole Dominion. This central nucleus is surrounded or bordered by the Great Plain of Central Canada. Since the extreme southern point of the Canadian Shield crosses the International Boundary, the western portion of this great plain also passes into the United States and, sweeping around the southern margin of the Shield, returns to Canada, forming the plains of the provinces of Ontario and Quebec. This plain is flanked on each side by mountain ranges—on the west by that series of ranges known as the Cordilleran Mountain System, while on the east, in the province of Quebec, it is bounded by the Appalachian Mountain System. To the east of the latter mountain system, is another area of lower land forming the "Maritime Provinces" of Canada.

Canada therefore falls naturally into the following five physiographic divisions:—

- 1. The Canadian (or Laurentian) Shield (or Protaxis).—A great plateau presenting a somewhat undulating surface of rocky country, well wooded in the south.
- 2. The Cordilleran Mountain System.—The Rocky mountains are the most eastern range of this system of mountain ranges which, with intervening valleys and plateau land, bounds Canada on the west and embraces British Columbia and western Alberta. The Cordilleran system has the finest forests in the Dominion and is rich in minerals.
- 3. The Great Plain of Central Canada.—This lies around the Canadian Shield on its western and southern sides and stretches from the Rocky mountains on the west to the Appalachian mountains on the east. In Canada, however, it is interrupted on the south by the southern extension of the Canadian Shield into the United States in the region of Lake Superior and Lake Huron. This separates its larger western portion which embraces the provinces of Manitoba, Saskatchewan and eastern Alberta, and which

¹ This chapter material was written for a special edition of the handbook prepared for the Fifth Pacific Science Congress held in Vancouver and Victoria, British Columbia, during June, 1933. A more detailed treatment of the physiography of Canada appears in the Canada Year Book (Chapter I) obtainable from the King's Printer at \$1.50 per copy.

is known as the "Western plain", from the eastern portion in southern Ontario and Quebec, which may be called the "Eastern plain". This Great Plain of Central Canada contains the largest area of grain-growing and farming land of the Dominion.

- 4. The Appalachian Mountain System.—This system is represented in Canada by the Notre Dame and Shickshock mountains and extends northward from the United States, crossing the boundary line from New Hampshire and running in a curving northeasterly course through the eastern portion of the province of Quebec to the extremity of the Gaspé peninsula.
- 5. The "Maritime Provinces".—This area lies to the east of the Appalachian Mountain System. It is a tract of country diversified in character, containing a considerable area of good farming land and important coal deposits.

The Canadian Shield

The Canadian Shield (or Laurentian Protaxis), to which reference has been made, is a great plateau underlain by rocks of Precambrian age and having an average elevation of about 1,500 feet above sea-level. On the castern margin, along the Labrador Coast, however, it rises to much greater heights, reaching in places 6,000 and even 7,500 feet, as is also the case further north in Baffin Land.



An Inlet on the North Shore of Great Bear Lake, N.W.T.—This picture gives a good idea of the topography of the Northwestern part of the Canadian Shield.

Photo, courtesy Royal Canadian Air Force.

In its central part, however, the plateau sinks below sea-level, and is here occupied by Hudson bay. This broad sheet of water has a depth of less than 500 feet and is indeed very shallow all along its southern shore. There is a gradual deepening of the water toward Hudson strait. This basin is very ancient and existed before Ordovician times, and probably before the later Precambrian, since iron-bearing rocks of that age occur at many points along its shores, dipping inward toward the waters of the bay.

The plateau has the hummocky surface which characterizes a highly glaciated area of hard crystalline rocks. The shallow depressions are occupied by tens of thousands of lakes, great and small, ranging in size from mere ponds to bodies of water several hundred miles in length. In an area of 4,200 square miles on the surface of this plateau, in the Haliburton region of the province of Ontario, there are 525 lakes, which is equivalent to one lake to every eight square miles of surface. These innumerable lakes, of all sizes and shapes, with their connecting streams and rivers form a pattern etched out of the gneissic rocks which make the plateau. Such lakes and streams follow the windings resulting from the complicated folding of the country rock and are often displayed in a most striking manner in aerial photographs of tracts of this plateau country. Where, at its southern margin, the plateau is crossed by the river St. Lawrence the summits of the low hummocks on the surface of the plateau stand out above the water and give rise to the remarkable scenery of The Thousand Islands, which characterize the course of the river, where it flows out of lake Ontario east of the city of Kingston. A little further west where the protaxis passes beneath the waters of the Georgian bay, on the eastern side of lake Huron, the same scenic effect results from the presence of some 30,000 little islands scattered along the eastern shore of this bay. A similar maze of islands with a labyrinth of bays and inlets is again seen in the lake of the Woods, on the margin of the plateau east of Winnipeg.

The shapes of the lakes and the courses of the streams are often modified and frequently determined by the mantle of glacial drift which lies upon the surface of the plateau, in places thin or nearly absent but in other places so thick as to entirely cover the underlying rock over large areas. These lakes and streams constitute a system of waterways, with connecting "portages" here and there over which the voyageur may carry his canoe, by which it is possible for one who is an experienced bushman to traverse almost every part of the great plateau; this is in fact the only way in which it can be explored, unless by aeroplane. In recent years, indeed, the aeroplane has been used extensively, more especially for the purpose of carrying parties of explorers to remote points from which detailed exploration may then be carried out. In this connection it may be mentioned that the immense number of lakes, to be found everywhere throughout the area, make it very easy to employ aircraft since, if a seaplane is used, a good landing can always be secured in summer on some lake, while in winter, when the lakes are frozen over, a plane fitted with runners can make a safe and easy landing on the even snow-covered surface of the lake or on some level stretch of snow-clad land.

This plateau is one of the most renowned Precambrian areas in the world. Through studies carried out on it, the Precambrian succession in North America has been established. Its systematic study was begun by Logan at the inception of the Geological Survey of Canada and the names Laurentian, Huronian, Grenville, Keweenawan were given by him to subdivisions of this ancient complex. Others who followed him have extended, by field studies, our knowledge of the subdivisions and succession found in various portions of this ancient protaxis of the continent of North America.

The great batholiths of orthoclase gneiss with their associated granites which underlie a large part of the plateau, while of the highest scientific interest, have yielded but few deposits of valuable minerals; the belts of highly altered sediments with the accompanying volcanic and plutonic igneous rocks associated with these batholiths, on the other hand, have been found to contain an abundance of mineral deposits, among them some of the richest and most valuable hitherto discovered anywhere. Of these may be mentioned the nickel-copper deposits of the Sudbury district, some of which have also an important content of platinum; the silver-cobalt deposits of the Cobalt area; and the gold deposits of the Porcupine and adjacent areas in Ontario and Quebec. These latter during recent years have shown an ever increasing annual production which has now brought Canada into the second place among the gold-producing countries of the world. These rocks also contain large deposits of iron ore and other metallic minerals and show signs of "mineralization" in almost every part of the protaxis where they have been found. Among the most recent discoveries in these rocks are the large deposits of radium minerals and rich silver ores in the vicinity of Great Bear lake.

The southern portion of this protaxis is forest clad and from these forests the lumber trade, as well as the great pulpwood and paper industries of Eastern Canada, derive their supplies of wood. These forests also are the habitat of great numbers of fur-bearing animals, many kinds of which were hunted by the Indians before the dawn of recorded history on this continent.

The great expanse of this protaxis, however, contains relatively little good farming land. In the far north the climate is too cold and in the south, where the climate is milder, the broken and rocky character of the surface makes it generally unsuitable for agriculture. There are, however, in certain parts of Eastern Canada within its area, large tracts of flat and very fertile land known as the Clay Belts. These represent deposits laid down in great lakes which covered the districts in question at the close of the glacial age. Some of the most important of these are traversed by the Canadian National Railway in the provinces of Ontario and Quebec and are now being rapidly taken up for settlement.

The portion of the protaxis between the northern part of the western plain and the northern part of Hudson bay is known as the Northern Prairies. It presents a great expanse of nearly flat highly glaciated country, treeless, but everywhere covered with a dense growth of cariboo moss. It is a region which is very difficult to traverse, but which is the habitat of the cariboo and musk-ox.

The Cordilleran Mountain System with its Valleys and Plateau Lands

This great belt of mountainous country forming that part of Canada which lies between the Great Plains and the Pacific ocean consists of four great mountain ranges running parallel to one another with intervening valleys and plateau lands. These, in order from east to west, are as follows:—

- 1. The Rocky mountains bordering the Great Plains.
- 2. The Selkirk or Gold range. This comprises a number of subordinate ranges, among which are: the Purcell range in the southeast, the Selkirks in the north, the Columbia mountains still further west and north, and the Cariboo mountains in northern British Columbia. (The Interior Plateau.)
- 3. The Coast range.
- 4. The Vancouver range.



View of Mount Robson and Glaciers in the Canadian Rockies about Twenty-five Miles North-west of the Yellowhead Pass.—Atmospheric agents (wind and rain, frost and heat) are slowly but continually breaking into and crumbling the hard faces of these giant peaks which will ultimately be reduced to a rounded, weathered condition.

Photo, courtesy Department of the Interior.

These four mountain chains were elevated at different times and present different types of structure—all have peaks of Alpine character rising above the snow line and serving as the gathering grounds for glaciers.

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The boundary line separating the provinces of British Columbia and Alberta follows the watershed of the Rocky mountains so that, with the exception of the eastern slopes of this range, the whole system in southern Canada lies within the province of British Columbia, which has been described as a 'sea of mountains'. As measured along the somewhat tortuous route of the main line of the Canadian Pacific Railway, this belt of mountains from the eastern foot of the Rockies to the city of Victoria is 650 miles (1,050 kilometers) wide.

In southern Canada the Rocky mountains are the highest of these ranges. There are probably hundreds of peaks in this range which attain altitudes of 10,000 feet, though not more than half a dozen reach 12,000 feet. The highest summit in the Rocky mountains, so far as is known at present, is mount Robson, which is 12,972 feet high. The most striking peak south of the main line of the Canadian Pacific Railway is mount Assiniboine, 11,870 feet high, having a pyramidal form resembling that of the Matterhorn.

There are several great névé fields within the Rockies which are the source of a number of great glaciers. The largest of these névés is in the Yoho National Park about 60 miles northwest of Laggan, a station on the main line of the Canadian Pacific Railway. The great snow field which lies on both sides of the summit of the Rocky mountains in the Yoho and Banff National Parks is larger than all the snow fields of the Swiss Alps taken together. This most easterly range of the Cordilleras consists of folded and faulted series of Palæozoic slates—Lower Cambrian to Permian in age. Along the eastern flank, facing the Great Interior Plain, there are some Jurassic and Cretaceous rocks involved in the folding, the range being overthrust from the west upon the Mesozoic strata of the plains.

The mountains of the Selkirk range are somewhat lower than the Rockies. They have an enormous snow fall, often exceeding 40 feet per annum and their well-watered slopes are clad with a very luxuriant growth of timber, the cedar trees often attaining a diameter of from 15 to 20 feet. These ranges are composed of older strata than the Rocky mountains, being chiefly of Precambrian (Beltian) age; they also display a succession of folds. In the axis of the main syncline, which forms the summit of the Selkirk range where crossed by the line of the Canadian Pacific Railway at Rogers Pass, Lower Cambrian sediments are seen overlying the Precambrian succession. On the east these Precambrian rocks are brought up against the Ordovician, by a great fault on the western side of the valley of the Columbia river. The western portion of the Selkirk range is composed of Precambrian strata of the Shuswap series, which are older than the Beltian and form part of the Precambrian (or Archæan) protaxis of the Cordilleran ranges.

The Interior Plateau is a belt of high plateau country, comparatively low in relief but intersected by stream valleys, about 100 miles wide and lying between the Gold ranges and the Coast range. Along the boundary between Canada and the United States it has an elevation of

about 4,000 feet above sea-level, but sinks gradually to 3,000 feet on going north. The upper Yukon basin may be considered as an extension of this plateau.

In southern British Columbia both the annual and daily range of temperature on this plateau is great and, on account of its very slight rainfall, the region is commonly known as the "Dry Belt of British Columbia". It is usually covered with a growth of sage bush, cactus, scattered yellow pine and poplar. When irrigated the land is very productive and is especially adapted to the growth of fruits and vegetables. The grassy "park country" of the uplands affords good grazing for cattle.

There are several large lakes renowned for their scenic beauty situated in this Interior Plateau, of which Shuswap and Sicamous lakes, and Okanagan lake, in the valley bearing the same name, are especially worthy of mention.

In the eastern part of this plateau, the underlying rocks are chiefly of Shuswap age, while in the western portion they are succeeded by a series of Mesozoic and Tertiary sediments associated with acid and basic lava flows and great thicknesses of volcanic tufa.

The peaks of the Coast range seldom rise to a height above 9,000 feet but owing to their proximity to the Pacific ocean the precipitation is very heavy. An abundance of rain falls upon their slopes and on their higher levels there are many snow fields which give rise to many large glaciers.

This range has its origin in a long series of granitic batholiths intruded in a direction parallel to the sea coast and which forms their axis.

The ranges are about 100 miles in width and are continuous along almost the entire coast of British Columbia. Ores of gold, silver and copper have been found in many places along this range, being connected genetically with the batholithic intrusions.

One of the most striking features of the coast of British Columbia is the presence of many deep fjords running from the coast far inland to the heart of the mountain range, often branching out into several arms as they pass back from the Pacific-as instances of these Howe sound, Jervis inlet and Toba inlet may be mentioned. Owing to these fjords the scenery along the coast resembles that of the coast of Norway although on a grander scale. They have originated in faults crossing the mountain ranges, along whose courses rivers were developed in pre-glacial time and whose valleys during the glacial age were deepened and widened by the ice moving down toward the sea, taking at the same time the typical U-shaped form characteristic of glacial erosion. Remnants of the glaciers which gave to them their final form are still to be seen at the upper ends of some valleys. The coast range, as has been said, is composed largely of a composite series of plutonic rocks known as the Coast Range Batholith which has been thrust through and is flanked by Palæozoic and Mesozoic sediments, blocks of which have been engulfed and are enfolded in it.

The Vancouver range runs throughout the length of Vancouver island and the Queen Charlotte islands but is partly submerged beneath the waters of the Pacific. Vancouver island is a portion of this mountain range and is therefore very mountainous with summits rising to 8,000 and 9,000 feet and is clad with great forests of various evergreen trees. Like the coast of the mainland, the coast of Vancouver island is intersected by many fjords which, however, are not on such a magnificent scale as those seen on the mainland. One of these, Alberni inlet, is twenty miles long with a fine harbour at its head. Vancouver island is composed of volcanic and sedimentary rocks, highly deformed and metamorphosed, pierced by many irregularly shaped intrusions of granite rocks. On both coasts sedimentary rocks are exposed resting unconformably on the metamorphic rocks and granitic intrusions already mentioned. The metamorphic rocks are largely of Lower Mesozoic age.

Among the many rivers in the Cordillera several are especially worthy of mention. In the southeastern portion, the Columbia river is the most amportant. Taking its rise in the Columbia lakes it flows northward in the deep valley which bounds the Rocky mountains on the west and which is known as the Columbia valley, or sometimes as the "Rocky Mountain Trench", to a point known as Boat Encampment. Here it turns to the west and sweeping around the northern end of the Selkirk range flows south along the western flank of these mountains. On passing Revelstoke it widens out into the Upper and Lower Arrow lakes from whence it continues to flow directly south into the United States.

The Kootenay river, rising a short distance to the south of the main line of the Canadian Pacific Railway near Vermilion pass, runs parallel to the Columbia but in an opposite direction and, at the head of Columbia lake, is only a mile distant from the latter stream. It, however, continues to run south into the United States and, passing around the southern end of the Purcell mountains, turns north and flows back into Canada where it enters Kootenay lake; issuing again from the western side of this sheet of water it flows into the Columbia river about twenty miles from the International Boundary. These two streams thus have their sources close to one another but, one flowing to the north and the other to the south, they become separated by a distance of 300 miles. Each reversing the direction of its flow again, they finally join one another.

Another very large and important river is the Fraser. This in its sinuous course runs completely across British Columbia. It takes its rise very near the boundary line of the provinces of British Columbia and Alberta, in the vicinity of the Yellow Head pass and, flowing to the northwest, reaches a point north of Fort George where it swings around and runs south, receiving a number of tributaries on the way, to Quesnel and then on to Lytton on the western border of the Interior Plateau. Here it is joined by the Thompson river and then, continuing to run south through Yale and Hope, it turns to the west and empties into the Pacific at Port Moody, a short distance south of the city of Vancouver.

The Great Plain of Central Canada

This lies along the southern and western margin of the Canadian Shield and stretches from the Appalachian mountains on the east to the Rocky mountains on the west. In Canada, however, it is interrupted, as has been stated, in the region about lake Superior and lake Huron, by the southward prolongation of the Canadian Shield which here passes through Canada into the United States. The plain sweeping around this prolongation passes back into Canada again to the east of lake Huron. The Great Plain contains the greater part of the farming land of the Dominion.

The eastern portion of the plain, situated in the provinces of Ontario and Quebec, may be termed the Eastern plain, while that portion lying to the west of the Canadian Shield in the provinces of Manitoba, Saskatchewan and Alberta is known as the Western plain.

The Western Plain.—This is a great expanse of country, treeless on the south but gradually becoming forest-clad in the north, first by the appearance of clumps of poplar and then by the presence of areas of park land in the treeless prairie. It thus passes into a region of coniferous forest land. The edge of the true forest may be said to commence at about the Duck mountains in Manitoba, extend westwards to the forks of the Saskatchewan, and then on along the watershed north and west of Edmonton to the foothills and eastern slopes of the Rocky mountains. The whole area in Canada of the Western plain is about 376,700 square miles, that is to say, it is nearly as large as France and Spain. About one-half of it is prairie land.

From the International Boundary on the south this plain as a whole slopes gently to the north toward the Arctic sea, a fact which has a marked influence on the climate of the country, since, owing to this cause, the isothermal lines sweep far to the north in great curves, so that the mean annual temperature is much higher on the plain than in the same latitude in the Canadian Shield on the east or in the Cordilleran belt on the west. Two parallel lines of escarpment running northwest and southeast divide the plain into three belts known respectively as the first, second, and third prairie steppes. These are pronounced features in the southern part of the Great Plain but in the north can no longer

be distinguished with certainty.

The first prairie steppe extends from the Canadian Shield on the east to a low escarpment on the west which presents the appearance of a series of hills when seen from the lower land of the steppe itself. This escarpment is made up of the Pembina, Riding and Duck mountains, and Pasquia hills successively as it passes from southeast to northwest. This lowest steppe is a flat alluvial plain. At the International Boundary it is about 800 feet above sea-level. It is the bed of what was an old glacial lake, known as lake Agassiz. This lake discharged to the south into the Mississippi drainage system and was bounded on the north by the high wall of the retreating continental ice sheet. As this latter receded to the north it laid bare a lower exit and the waters of lake Agassiz





then drained off in a northerly direction into Hudson bay, leaving, as surviving remnants of the glacial lake Agassiz, lakes Manitoba, Winnipeg and Winnipegosis and other smaller sheets of water which now lie on the surface of the plain. This lowest steppe lies for the most part in the province of Manitoba and the rich alluvial soil deposited from glacial lake Agassiz now constitutes one of the richest areas of agricultural land to be found anywhere in the world. The outcropping basset edges of a series of nearly horizontal Palæozoic strata form the escarpment which bounds the first prairie steppe on the west. This escarpment is nowhere more than 500 feet high.

Ascending it, the second prairie steppe is reached. This is a great tract of undulating prairie, which, at the International Boundary, has a width of 250 miles. It has an average elevation of 1,600 feet and is



Grain Land on the Second Prairie Steppe.

Photo, courtesy Department of the Interior.

bounded on the west by another escarpment running parallel to that already mentioned and which in different portions of its course is known as the Missouri, Coteau, Vermilion, Bear and Eagle hills. The second prairie steppe occupies chiefly the province of Saskatchewan and the western part of the province of Manitoba. A large part of it is composed of excellent farming land.

The third prairie steppe lies to the west of that just described and extends to the foothills of the Rocky mountains. It has an average elevation of 3,000 feet, but gradually rises, on going from east to west across it, from an elevation of 2,000 feet on its eastern margin to one of over 4,000 feet on its western border (Calgary, in the vicinity of the foothills, is 3,400 feet above sea-level). Its surface is more irregular than that of the other steppes, several detached plateaus rising to considerable heights above the surrounding portions of the plain. Of these the most important are Wood mountain and the Cypress hills. In its southwestern portion

the rainfall is deficient and large areas are irrigated by water brought from the Rocky mountains. This is known as the ranching country.

The second and third prairie steppes are for the most part underlain by rocks of Cretaceous and Lower Tertiary age. These contain thick beds of lignite passing into bituminous coal toward the Rocky mountains. Great supplies of gas and considerable amounts of oil are also obtained by borings in certain portions of this highest steppe.

In the far north the Great Plain is sometimes known as the Mackenzie Lowland. Here it has a gentle slope to the northwest and holds on its forested surface, as elsewhere, a great many lakes and muskegs drained by small streams meandering through shallow valleys, the monotony of the general level being relieved by a few hills or mountains rising to elevations of a few thousand feet, such as Franklin mountain and Horn mountain.



A Dairy Farm in the Fertile St. Lawrence Valley.

Photo, courtesy Department of the Interior.

A very striking topographical feature of the western country is the presence of a series of great lakes which appear in succession along the eastern margin of the Great Plain where they come against the Canadian Shield. These lakes lie along the actual contact of the two. They are, enumerating them from south to north, lake Winnipeg, lake Athabaska, Great Slave lake and Great Bear lake, after which the line of contact passes on to the shores of the Arctic ocean at Franklin bay.

The Eastern Plain.—This portion of the Great Plain of Central Canada is much smaller in extent than its western portion just described. It has an area of about 35,000 square miles and is often referred to as the Lowlands of the St. Lawrence Valley.

It is bounded on the southeast by the Appalachian Mountain System, on the northwest by the higher lands of the Canadian Shield and on the south, so far as Canada is concerned, by the International Boundary. It lies along the northern shores of lakes Erie and Ontario and extends to the northeast, forming the valley of the St. Lawrence river. It is underlain by nearly horizontal strata of Palæozoic age mantled by glacial drift. This Eastern plain lies in the provinces of Ontario and Quebec. On it are situated the two largest cities in the Dominion—Montreal and Toronto. The former owes its importance to the fact that it is at the head of navigation of the river St. Lawrence. In the vicinity of Montreal the uniform surface of the plain is broken by the Monteregian hills—a series of eight volcanos of late Palæozoic age, now deeply eroded. The city of Montreal encircles the most westerly of these hills which is known as Mount Royal, the others rising in succession from the plain to the east of this city.

While relatively small as compared with the western part of the Great Plain, it is that portion of the Dominion which was first settled and which still contains the greater part of the population of Canada. The soil is fertile and yields large crops to the farmer. Unlike much of the Western plain it is an area of mixed farming rather than a wheat-growing country. It furthermore has great waterfalls which produce enormous amounts of electric power forming the basis of very extensive and varied manufacturing industries.

The Appalachian Mountain Syste n and the Maritime Provinces

The Appalachian Mountain System in Canada, as has been already mentioned, is a mountainous belt of country which extends for about 500 miles from the boundary of the State of Vermont to the extremity of the Gaspé peninsula on the south shore of the gulf of St. Lawrence. It is represented by the Notre Dame and Shickshock mountains and is composed of a series of highly folded strata of early Palæozoic age, with an axis of Precambrian rocks, which latter forms part of the eastern protaxis of North America. These are penetrated in many places by igneous intrusions with which are associated some important ore deposits. The range is not a lofty one, seldom attaining elevations of over 3,000 feet.

To the east of this Appalachian mountain belt lie what are known in Canada as the "Maritime Provinces", namely New Brunswick, Nova Scotia and Prince Edward Island. This portion of the Dominion is, in its geological character and relations, more closely allied to Great Britain and western Europe than it is to the rest of Canada on the other side of the Appalachian mountains. It is a beautiful country of diversified character with areas of good farming land, important coal deposits, and very valuable off-shore fisheries. It has a deeply indented coast line with an abundance of excellent harbours. Those of Halifax, the capital city of Nova Scotia, and Saint John, in the adjacent province of New Brunswick, form large and important ocean ports through which the sea-borne commerce of Eastern Canada is carried, especially in the winter season when the ports of Montreal and Quebec are closed. They have a large volume of trade with the West Indies throughout the year. Prince Edward Island is the smallest province in the Dominion of Canada and presents an expanse of excellent agricultural land, underlain by red sandstones and shales of Upper Carboniferous and Triassic age.

The Influence of the Topographical Features of the Dominion of Canada on its Early Settlement and Subsequent Development

When Christopher Columbus sailed westward from Europe on his four successive voyages, he did so with the object of reaching the "Golden East", that is to say India and far Cathay. That the continent of America which he discovered was at first supposed to be a portion of the long looked-for land is testified to by the fact that the islands where he made his first landing are still known as the West Indian islands and the original inhabitants of the continent as the American Indians. It came to be recognized later that this newly discovered land was not India but a new and hitherto unknown continent stretching north and south across the path to Asia. Then began a search for some passage across this land barrier to the eastern seas. In 1535-36 Jacques Cartier discovered what he hoped would prove to be such a passage when he sailed into the gulf of St. Lawrence and passed up the river of the same name for 1,000 miles into the interior of the continent as far as the site of the present city of Montreal, where rapids in the river checked his further advance. He had, however, passed nearly one-third of the way across the continent of North America. It was along this route that the first white men came from Europe to settle in Canada. This settlement was at Quebec but rapidly extended into other parts of the eastern portion of the Interior Plain as far west as Montreal. It was here along the shores of the gulf of St. Lawrence and in the valley of the St. Lawrence river that the French established themselves in Canada. The British settlers who, some years later, settled further south in what are now known as the New England States, were prevented for many years from extending into the interior of the continent owing to the barrier presented by the Appalachian mountains, but Jacques Cartier had sailed around the northern end of this barrier range and made his way far into

the Interior Plain. After the French régime, emigrants from the British Isles, joined by many hardy colonists (who had left the United States when the revolution took place and passed north into Canada in order that they might remain under the British flag), took up land to the west of the French settlements and made their homes in the upper part of the valleys of the St. Lawrence and Ottawa rivers and along the northern shores of lake Ontario and lake Erie.

A further extension of settlement to the west was, for many years to come, prevented by the wide tract of rocky and barren country which was then encountered, for here the southern extension of the Laurentian Plateau was thrust down as a great wedge from the north separating the eastern from the western portion of the Great Interior Plain. The fur traders, however, led the way to further settlement in the west for, between 1733 and 1738, the Winnipeg river, lake Winnipeg, and the Red river were explored by La Vérendrye and other trader-explorers. Part of what are now the Prairie Provinces of the Dominion was the field of a valuable fur business, later to be exploited by The Northwest Company established in 1783 and having its headquarters at Montreal. The canoe route followed by these traders, from Montreal to their posts on the Red river, in what is now the province of Manitoba, was about 1,800 miles in length. The canoes were put into the water and loaded at Lachine, nine miles from Montreal, and proceeded up the Ottawa river and by the Mattawa to lake Nipissing and thence down the French river into lake Huron. Skirting the north shore of this lake, the canoes entered lake Superior and following the northern shore of this great sheet of water reached the mouth of the Kaministikwia river, which they then ascended. passing into Rainy lake and lake of the Woods. Passing out of this latter by the Winnipeg river, the canoes reached lake Winnipeg and then continued up the Red river to the Company's posts. This journey, which entailed many portages en route, occupied about five weeks.

There was another route by which fur traders could gain access to the Western plain, namely by Hudson bay. This was used by "The Ancient and Honourable Company of Gentlemen Adventurers trading into Hudson Bay", founded in 1670 and commonly known as the Hudson's Bay Company, which had its headquarters in London, England. This route was open for only a few weeks each year but the Company dispatched from England each summer a ship laden with all the supplies and equipment required by the Company's trading posts for the coming season and, landing them at York Factory on the western shore of Hudson bay, distributed them by canoe route and pack train to all their trading posts in the interior of the country.

In 1812, the Earl of Selkirk sent out from Britain a party of settlers by this route and established on the banks of the Red river, to the south of lake Winnipeg, a settlement known as the Selkirk or Red River Colony. This colony, which was afterwards increased by the accession of a number of persons who had retired from the service of the Hudson's Bay Company, was the first band of settlers to take up their residence on the

Great Plain in the west. It was evident, however, that no large accession of population could find an entrance to this great stretch of country through either of these routes.

The early history of the settlement of British Columbia is a story of its own.

When Captain George Vancouver was sent to the coast of what is now British Columbia to confer with Captain Quadra concerning the withdrawal of Spain from this coast, he made extensive explorations and in 1793, while he was still there, Alexander Mackenzie of the Northwest Company crossed overland to the Pacific by the Peace and Fraser rivers.

The great fur-trading companies which had worked their posts westward by way of the waterways of Canada were reaching beyond the Rockies, and Simon Fraser, sent by the Northwest Company, established the first fur post at Lake McLeod in 1805, and later, after almost incredible difficulties, descended the Fraser river to its mouth, to be disappointed that he was not at the mouth of the Columbia. During the ensuing years other trading posts were established along the waterways of British Columbia and a western depot at the mouth of the Columbia river at Fort Vancouver in 1825.

In 1843, the Hudson's Bay Company established Fort Victoria on Vancouver island which, in 1849, replaced Fort Vancouver as their western depot. This marked the beginning of real settlement. Contemporaneously with the change of the depot, Vancouver island was created a Crown Colony, though it was leased to the fur company.

Up to this time, there were no settlements on the mainland except the trading posts of the Hudson's Bay Company but, following the finding of gold on the Fraser and other streams, a rush occurred to the Fraser river in 1858, when over 20,000 adventurers, some from England and Australia but mostly from California, poured into Victoria, which underwent quick transition from trading post to city. As the gold seekers reached the Fraser other cities sprang up—New Westminster, Hope, Yale—and James Douglas, Governor of Vancouver Island, looking to the interest of the Crown and of the fur company which enjoyed trading rights on the mainland, promptly extended his jurisdiction to cover the mainland and issued ordinances with the effect of law. In 1858, the mainland was created the Colony of British Columbia. From 1859 to 1861 further gold fields were opened, culminating in the rich Cariboo creeks which attracted more adventurers.

In 1866 the two colonies were united, and, following much controversy, Victoria was selected as the capital. The union was contemporaneous with the movement in Eastern Canada towards Confederation.

Unlike the rest of Canada the access of settlers to these western colonies, before they became part of the Dominion of Canada, was altogether by way of the United States on the south. This continued up to the time of Confederation.

In 1867, the separate colonies of Canada, Nova Scotia and New-Brunswick went into confederation and became the Dominion of Canada.

Two years later, in 1869, the Hudson's Bay Company surrendered to the Crown the right and title to their territories for transfer to the Dominion of Canada and in 1870 these became part of the Dominion. In 1871 British Columbia, and in 1873 Prince Edward Island, entered the confederation, so that the Dominion of Canada came to embrace the whole stretch of country from the Atlantic to the Pacific oceans.

In order to make this union effective it was necessary to establish at once direct and easy communication between all parts of the new Dominion, and especially between Eastern Canada and the great expanse of rich agricultural land which became available for settlement in the prairie lands of the western portion of the Great Plain of Central Canada. The barrier presented by the Laurentian Protaxis, to which reference has just been made, was overcome by building the Canadian Pacific Railway from Montreal to Winnipeg and this railway was extended across the Great Plain.

The obstacle to free passage between the Maritime Provinces and Western Canada had been removed by the construction of the Intercolonial Railway from Halifax to Quebec. There still remained, however, the greatest hindrance of all, namely, the Cordilleran Mountain System separating British Columbia from the Great Plain and Eastern Canada. This was overcome in 1885, the last spike being driven on Nov. 7 of that year, and on June 28, 1886, the first through train started from Montreal to Burrard inlet on the Pacific Coast. The city of Vancouver came into existence within the next few years at the terminal point of the great transcontinental line on the Pacific side of the continent.

Later on other railways, now united in one great system known as the Canadian National Railways, afforded a second transcontinental system crossing Canada, which, running further north, secured an easier passage through the Laurentian Protaxis by passing over certain clay belts which had resulted from the deposition of silt upon its surface from the waters of great lakes in late glacial times. This line also by crossing the Great Plains further north than the Canadian Pacific Railway passed through a rather better farming country, in that it has a greater rainfall. It also secured a lower and easier pass—the Yellowhead pass—through the Rocky mountains to Prince George, from thence reaching the Pacific by two separate lines, one passing down the Fraser river to Vancouver and the other down the Skeena to Prince Rupert.

Free access was thus secured to all parts of the Dominion of Canada suitable for settlement from east to west. Access to the far north is now available, by ocean steamer, by inland water navigation and by aircraft.

By ocean transportation the shores of Hudson bay, Hudson strait and the eastern Arctic islands are served from Sydney, Halifax and other eastern ports, the western coast and islands being served through Bering sea and strait and Beaufort sea from Vancouver and other Pacific ports.

Inland water routes are extremely important, particularly to the western portion of the Northwest Territories where one of the finest

natural waterways of the world exists—the Mackenzie river with its tributaries and adjacent waterways. A regular transportation service is maintained during the open season to all posts on the Slave, Mackenzie, Peel and Liard rivers, and to points on Great Slave and Great Bear lakes.

The introduction of the aircraft has marked a new chapter in the opening-up of the Northwest. This means of transportation was employed by the Imperial Oil Company in 1921 when developing the oil fields near Norman on the Mackenzie river. During 1929 four mineral exploration companies (distinct from those engaging in a transportation business) flew 529,900 miles over territory in, or adjacent to, the Northwest Territories, while between November, 1931, and July, 1932, inclusive, 29 tons of mail, 93 tons of freight and express, and 587 passengers were carried by air into the Northwest Territories. The freight carried was chiefly food, medical supplies, and prospectors' outfits, although it is worthy of note that bulky mining machinery such as diamond drills has also been transported.

Commercial aviation companies and aerial mineral exploration companies have flown, in a general way, over all the mainland of northern Canada east of the Mackenzie river, and in addition there have been flights to the west of the Mackenzie river. Consequently to-day the more used air routes are well known and many of them have been mapped.

The Royal Canadian Air Force has established refuelling bases at thirty-two points in the Northwest Territories. Photographs have been taken and information—such as length of season for summer and winter flying, good and poor landing areas, available supplies, nearest settlement and available labour, and nearest wireless station, in fact all information which tends to lessen the hazard of flying in the north—has been collected at most of these gasolene caches. The dangers of bad-weather flying have been greatly reduced by the establishment of wireless stations at key points throughout the Territories.

Very large areas have also been mapped topographically from the air by the mapping services of the Dominion Government.

Perhaps nowhere is the value of the modern aircraft, as a factor in the development of Northern Canada, more strikingly shown than in the new mining areas about Great Bear lake, where now fifteen or more cabin seaplanes may frequently be seen along what were a few years since almost unknown shores.



The Mace-Symbol of Authority of the House of Commons.

70800-3

CHAPTER II1

SALIENT EVENTS OF CANADIAN HISTORY TO THE OUTBREAK OF THE GREAT WAR

The French Period.—Canadian recorded history commenced with the discovery of Cape Breton in 1497 by John Cabot, an Anglo-Italian navigator of Bristol, England, sailing under a commission of Henry VII. His discovery was not successfully followed up by the English and it was not until 1534-41 that systematic exploration of the St. Lawrence as far as Montreal was carried out by Jacques Cartier, a French explorer from the port of St. Malo in Brittany. Cartier made three voyages between 1534 and 1541 and took possession of the territory in the name of the King of France. More than fifty years was to pass, before



Jacques Cartier

definite plans were made to plant colonies in the territory.

The real founder of Canada was Samuel de Champlain, who with de Monts established the first permanent colony at Port Royal in 1605. Three years later Champlain founded Quebec. Throughout his life, Champlain was associated with the different trading companies which, in return for the monopoly of the fur trade granted by the King of France, agreed to carry on colonization and missionary work among the Indians. At this time the trading companies, owing to the lack of centrally organized government, acted in a quasi-governmental capacity in their several areas. The two functions, of carrying on colonization and missionary work on the one hand and pursuing the trade in furs on the other, were essentially antagonistic. The charter stipulations were in fact "more honoured in the breach than in the observance".

The meagre results which had been accomplished in the way of the colonization of New France by the monopolistic companies compared with the progress under Royal Government, is shown by the population figures which are available. In 1641 the resident population of New France was 240 souls. In 1666, when Talon took the first official census for the Government, the white population of New France was 3,215 persons; in 1675 it was 7,832; and by 1698, the year Frontenac died, it had reached 15,355.

¹ Most of the illustrations in this chapter were supplied by courtesy of Dr. A. G. Doughty, Public Archives of Canada.

Champlain was associated with one or other of the monopolistic trading companies throughout his life, for the last eight years of which he had much to do with the activities of the Company of the Hundred Associates, whose charter covering New France and Acadia was granted in 1627. He stands out in strong relief to the majority of his contemporaries in devoting much serious effort to colonization and exploration. It was Champlain's appeal to Cardinal Richelieu which had brought about the creation of this strong Company and its absolute sovereignty over "all French possessions between Florida and the Arctic regions and from Newfoundland as far west as it could take possession".



In its early years, the Company was sadly harassed by the attacks of David Kirke (sent out by Charles I of England in 1628 and 1629) resulting in the fall of Quebec and the taking of the colony. When peace was signed between England and France in 1632, Canada was given back to the French. Nevertheless the Company had been crippled by the loss of capital invested in the fleet captured by Kirke and, after struggling along for a time, was obliged to acknowledge insolvency in 1663 and surrender its rights and privileges to the King who, acting on the advice of his great Minister of Marine and Colonies, Colbert, proceeded to establish a still larger company—the West India Company. Colbert's prestige suffered in this attempt more quickly than Richelieu's

had in the case of the Hundred Associates, and the West India Company in turn lost its monopoly in 1669. The Company never had carried on governmental functions for since 1663 the country had been organized under the Sovereign Council of France, which, under the immediate control of the King, appointed his representatives in New France—the Gövernor, the Bishop and the Intendant.

This system of Royal Government lasted until 1760, the end of the French period. In an outline such as this, it is not possible to sketch this romantic and picturesque régime or describe the succession of stirring incidents



Jean Talon

clustered about such names as Maisonneuve and La Mère de l'Incarnation. Dollard, D'Iberville and La Vérendrye, Marquette and La Salle—those who opened-up what is now the Dominion to the civilized world and whose memory persists to-day in some of our oldest institutions.

One immediate result of the period of Royal Government was the introduction of French Law into New France. Previously, the trading companies had administered justice, more or less effectively, in their own ways and, while certain influences of early French civil law had become a part of the practice of the country, it is nevertheless the case that the uniform introduction of French Law, as it then existed in France, dates from 1663. Its influence can be traced in the law of Quebec to-day.

Among the various Governors the name of Frontenac is outstanding, among the Bishops that of Laval, and among the Intendants, Talon. Frontenac, a veteran soldier, arrived in 1672. He was a man of strong individuality, most successful in making friends of the Iroquois who had been dangerous enemies of the colony, though wholly unsuccessful in his relations with other members of the Government. On account of his inability to work agreeably with the Intendant and the Bishop, he was recalled along with the Intendant by the French Government. After being succeeded by two mediocre Governors, he returned in 1689, when more trouble with the Indians had arisen. His strong hand was instrumental in once more bringing order to the colony by successfully attacking the English colonists and their Iroquois allies. Frontenac died in 1698.

Laval arrived in 1659. His duty was to preside over the Church in New France and to extend its influence among the Indians. Jean Talon came out as the first Intendant, an office involving financial and judicial authority and a large measure of practical independence. Talon was the first really to perceive the industrial and commercial possibilities of the country. He returned to France shortly after the first arrival of Frontenac, but not until he had given an impulse which had lasting effects upon the economic life of Canada.

In 1688 France had declared war on England as a sequel to the English Revolution of the same year. Frontenac's presence in New France saved the colonies but a second war, 1702-13, was disastrous to France and, by the Treaty of Utrecht (1713), she surrendered to England the French settlements in Acadia and Newfoundland and also gave up her claims to the Hudson Bay watershed. Cape Breton (Ile Royale) and Prince



General Wolfe

General Montcalm

Edward Island (Ile St. Jean), however, remained French; the former was the cause of further strife between the two powers and, after being captured by the English in 1745, was restored to France by the peace of Aix la Chapelle in 1748 but, ten years later, during the Seven Year's War, passed into the permanent possession of the English after a siege in which General Wolfe distinguished himself. There followed the great struggle between Wolfe and Montcalm for possession of the St. Lawrence valley, a struggle which cost both leaders their lives at the capture of Quebec.

Wolfe's historic expedition against Quebec in 1759 was planned by the great William Pitt, Earl of Chatham, and has been regarded as one of the most decisive events of world history. The capitulation of Montreal a year later placed the whole country in British hands, although the Treaty of Paris, by which Canada was officially ceded to Great Britain, was not signed until February 10, 1763. The British Period.—From 1759 for a period of fifteen years Canada was a British Crown Colony, the government being of a purely military character. In 1774 the Quebec Act established a Council with limited powers, sanctioned the use of French Law (introduced in the French régime) in civil matters, and granted full freedom for the exercise of the Roman Catholic



religion. By the Act, the boundaries of Canada were extended south to the Ohio and west to the Mississippi. Trouble between the Mother Country and the New England colonies provided the excuse for an attempt of the revolting colonies to capture Quebec in 1775. They were repulsed by Governor Carleton¹ but the Treaty of Versailles surren-



Sir Guy Carleton

dered the territory south of the Great Lakes to the United States.

Following the American Revolution and the establishment of the Republic, the United Empire Loyalists flocked to Canada and augmented considerably the English-speaking population. However, as time went on, government became increasingly difficult owing to racial antagonisms. Experiences with the New England colonies had, moreover, considerably tempered the attitude of the Home Government towards the wishes of her remaining overseas possessions in America. Finally, by the Constitutional Act of 1791

¹ Became Sir Guy Carleton in 1777 and later Lord Dorchester. As Col. Carleton he had fought with Wolfe at Quebec and was now at the zenith of his career.

the British Government divided the English-speaking province of Ontario or Upper Canada from the French-speaking province of Lower Canada or Quebec and gave to each Representative Government. This had existed in Nova Scotia as early as 1758, in Prince Edward Island since 1769 and in New Brunswick since 1784.

The war of 1812-15 with the United States, in which Sir Isaac Brock and Colonel de Salaberry so ably defended Canada against the invaders, was a serious crisis in the early history of Canada. The struggle was marked by alternate victory and defeat, but was finally brought to a close by the Treaty of Ghent. Upper Canada had suffered considerably, her capital, York (now Toronto), having been captured and burned, but the main



Lord Durham

result of the struggle was to strengthen the bonds between Canada and the Mother Country.

The representative institutions granted in 1791 to the two provinces of Canada resulted in but a fair measure of content. Bitter dissensions between the Legislative Assemblies representing the people and the Governors representing the Crown became more and more frequent, until popular clamour for more responsible government became increasingly menacing and finally resulted in the rebellions of 1837 led in Lower Canada by Papineau and in Upper Canada by W. L. Mackenzie. The uprisings had very definite and far-reaching results. 'The constitution of Lower Canada was suspended and a Spe-

cial Council created. Lord Durham was sent out by the Home Government to make an exhaustive report on conditions in all the North American provinces (1838). His recommendations met with much opposition at home. He was censured and later resigned. Wisdom ultimately prevailed, however: the union of Upper and Lower Canada and the goal of Responsible Government, as distinguished from Representative Government, was achieved under the Act of Union in 1840. To Lord Sydenham fell the difficult task of bringing about the proposed union, but it was not until the formation of the Lafontaine-Baldwin Government under Sir Charles Bagot that the new system, later consolidated under Lord Elgin, was established on a firm basis.

In the meantime, the three maritime provinces were quietly but surely working toward similar reforms, with the result that Responsible Government was granted to Nova Scotia and New Brunswick in 1848, and to Prince Edward Island in 1851.

The Union of the provinces and the introduction of Responsible Government, although attended by grave political difficulties, gave a new

stimulus to the material development of the country. The canal system already begun made rapid strides and river and lake navigation developed steadily. The first steam railway opened in 1837, and in the 'fifties railway expansion was rapid, the Grand Trunk Railway between Montreal and Toronto being completed in 1856.

Meanwhile, as a result of Sir Alexander Mackenzie's crossing of the continent in 1793, a new settlement was growing up on Vancouver island. The discovery of coal in 1849 hastened the development in this section, which was made a colony with Representative Government in 1856. A little later gold was discovered on the mainland, and British Columbia was given a separate provincial government in 1858. In 1866 the two provinces united and the first Legislative Council of the united province met.



The northern boundaries shown are as understood at Confederation.

Confederation.—The idea of uniting the British North American colonies was no sudden inspiration: it had in fact haunted the minds of far-seeing men for many years. William Lyon Mackenzie suggested it in 1825 and Lord Durham also seriously considered it but found transportation inadequate to make a real union possible. Sir Alexander Galt in 1858 induced the Cartier-Macdonald Government to send a mission to England to take up the matter with the Imperial authorities, but found the political situation in England unfavourable to decisive action at the time. It was the continued political disagreements between Upper and Lower Canada which did more than anything else to bring the question to a head. Leading men of both parties felt that a larger union was the only solution to the difficulties of administration. A coalition government—the Taché-J. A. Macdonald Administration—was formed in 1864, with George Brown leading the movement to amalgamate the British North American provinces. During Sep-



Sir John A. Macdonald

tember of the same year, representatives from the Maritime Provinces met at Charlottetown to consider a union of their three provinces under one Government, but they were persuaded by delegates from the legislatures of the Canadas to adjourn the convention to Quebec, in order to discuss the broader federal union of all five provinces and, if possible, the inclusion of Newfoundland, Repre-Newfoundland sentatives from attend this were invited to second conference which at Quebec in October, 1864. There was at first a certain amount of local opposition to the scheme in the Maritime Provinces, which was successfully met in the case of Nova Scotia and New Brunswick, although Prince Edward Island did not enter Confederation until 1873. Nevertheless it was from the resolutions accepted at the Conference

that the Dominion of Canada as it exists to-day was born. These resolutions, as amended by the London Conference of 1866, were incorporated in the British North America Act, which came into force July 1, 1867. The new Dominion consisted of the provinces of Upper and Lower Canada, Nova Scotia and New Brunswick, but provision was made for the inclusion of other portions of British North America deciding later in favour of union.

Sir John A. Macdonald, the first Prime Minister of the new Dominion, had many and varied problems presented to him for solution. In 1866 the "Fenians" from the United States had raided the Niagara frontier with considerable loss to life and property and it seemed reasonable that some compensation should be made by the United States Government, but this was emphatically refused. Feeling at this time ran high between the two countries, and the Reciprocity Treaty which had been arranged in 1854 was terminated (1866). Thus the Dominion was born under any but auspicious circumstances and it was largely the hard work and faith of those in authority at the time that made ultimate success possible. For a time there was temporary depression in Canada, new markets had to be sought and the strength of Confederation was tested. In addition to economic troubles, political difficulties arose. The abrogation of the Reciprocity Treaty brought to an end the United States fishing rights in British waters. Since that country was slow to accept the change, a number of U.S. vessels were confiscated which added to ill feeling. Other matters were outstanding, including the Alabama Claims and

the San Juan question. Finally it was agreed to refer all these matters to a joint commission consisting of five British and five United States members. Sir John A. Macdonald was appointed as a member on the British side. The questions in dispute were settled by the negotiation of the Treaty of Washington in 1871, but the feeling prevailed in Canada that her interests had been sacrificed.

The young Dominion was now beginning to feel her way and her eyes were turned to westward expansion. In 1869 the Hudson's Bay Company surrendered to the Crown, in return for money and other considerations, all territorial rights in the Northwest which it had held since the granting of its charter in 1670. Manitoba, the fifth province of Canada, was created out of a part of the ceded territory, but not before apprehensions of the half-breed population, led by Riel, that certain of their rights would not be protected, had resulted in the abortive outbreak of the Red River rebellion (1870).

In 1871 the province of British Columbia entered Confederation under an agreement for the construction of a transcontinental railway and two years later Prince Edward Island was admitted.

To the Government of Sir John A. Macdonald fell the task of carrying out the agreement with British Columbia stipulating that the new railway should be begun within two years from the date of union. In 1880 a contract was signed with the present Canadian Pacific Railway Company and the work went steadily on until its completion in 1885. The last spike was driven by Sir Donald A. Smith (later Lord Strathcona and Mount Royal) on November 7, completing a line which stretched across Canada from ocean to ocean.

Revelations made in 1873 as to the means by which election funds had been obtained by the Government (Pacific Scandal) brought on a Cabinet crisis. Sir John A. Macdonald resigned and Alexander Mackenzie formed a Government. In 1878, however, the conservatives rewon the confidence of the electorate on a policy of protection, the historic National Policy. The effect was to raise the customs duties on dutiable goods to an average of 26 p.c. on the goods imported in 1880.

On Sept. 1, 1880, all British possessions in North America and adjacent islands, except Newfoundland and its dependencies, were annexed to Canada by Imperial Order in Council, extending the Dominion to the Pole.

In 1885 another rebellion led by Riel broke out, this time in what is now Saskatchewan. Militia regiments were dispatched and order was restored. In 1884-5 Canadian *voyageurs* took part in the Nile expedition for the relief of General Gordon.

General elections were held in the years 1882, 1887 and 1891 and Sir John A. Macdonald's Government was sustained on each occasion. The strain of public life was beginning to tell on his health, however, and he died on June 6, 1891, at the age of 76. He had done more than any other man to shape the political history of Canada, and died honoured alike by political friends and foes.

In 1896, Sir Wilfrid Laurier, the great Liberal leader, became Prime Minister of Canada and held the reins of office during the greater part of



Sir Wilfrid Laurier

the period from then to the Great War. The British Preferential Tariff was introduced by Sir Wilfrid Laurier soon after his accession to office. This meant in 1898 a reduction of one-fourth of the customs duties charged upon articles, the growth, produce or manufacture of the United Kingdom or of certain specified British colonies. The proportion of the rebate was increased to one-third in 1900; while in 1904 this method of granting a preference was changed into a specially low rate of duty on almost all imported dutiable commodities.

Two important arbitrations in which Canada was interested have taken place since 1890, the first relating to the rights possessed by British subjects in the seal fish-

eries of Bering Sea and the second to the boundary between Alaska and Canada. In the first case, the claims advanced on behalf of Canada were fully upheld. In the second case there was some disappointment in Canada over the award, but it did not in any serious degree affect Canadian interests.

In 1899, when war was declared between the Transvaal and the British Government, Canada linked her fortunes with those of the Mother Country. Her troops distinguished themselves, particularly in the battle of Paardeberg in which the Boer General, Cronje, was forced to surrender.

The development of Canada during the early years of the twentieth century was very marked, especially in the west. Parts of the Northwest Territories, which had been organized into provisional districts in 1882, rapidly advanced towards provincial status and, in 1905, were organized as the two provinces of Saskatchewan and Alberta. The discovery of gold in the Yukon had already led to its establishment as a separate territory in 1898. Economically this period was one of extensive exploration and rapid expansion. Canada's vast resources came to be widely known and there followed a great influx of immigrant labour and of capital.

In 1911 Sir Wilfrid Laurier was defeated on the issue of freer trade relations with the United States and Sir Robert Borden, the conservative leader, succeeded him as Prime Minister. To this statesman fell the heavy task of directing the political fortunes of Canada and representing the Dominion in Imperial affairs during the trying years of the War.

CHAPTER III

WEALTH, PRODUCTION AND INCOME —CAPITAL INVESTMENTS

Wealth

"National Wealth" in this analysis is a concrete concept and includes all our farms, factories, equipment, merchandise in stock, real estate, roads, highways, developed resources and the thousand and one material things which we as a nation possess.



Terminal Grain Elevators at Port Arthur with log boom in foreground.

Some difficulty arises when we try to reduce all the things which go to make up this wealth (things which once created are not themselves subject to violent change) to a common denominator. Estimates of national wealth must always be expressed in terms of the national currency and thus normally in terms of gold dollars. Yet the purchasing power of the currency unit is always fluctuating and since 1929 has increased by morethan 50 p.c. in terms of wholesale prices. Even in 1930, the average index number of wholesale prices was down by nearly 10 p.c. from 1929, while in December of that year the index was 19 p.c. lower than in December, 1929. The index continued to decline until February, 1933, and, even though there has been some improvement since then, in October, 1933, it was still nearly 30 p.c. below the same month in 1929.

The effect of such drastic reductions in prices is first felt by the commodities which are being currently produced and, through these commodities, diminishes the dollar value of production and consequently the national income of a country where most people are producers. Ultimately a persistent decline of this character affects the capital values of real estate, buildings, machinery, etc., and its influence is then felt in a reduction in the national wealth as stated in dollars. The capital value of our national wealth has not yet had time to be finally readjusted for the many fluctuations in prices which have characterized the past five years, and any attempt to estimate the wealth of Canada must be open to serious error until the necessary adjustment has been made. The 1929 estimate, which is considered to represent fairly well values in that year is, therefore, the latest which has been compiled by the Bureau of Statistics and the table below shows the national wealth on that basis.

Estimate of the National Wealth of Canada, 1929

Classification of Wealth	Aggregate Amount	Percentage of Total	Average Amount per head of Population
	\$	p.c.	\$
Farm Values (land, buildings, implements, machinery and livestock)	6,308,353,000	20.45	629.01
Agricultural Products in the possession of farmers and traders	1,631,124,000	5 · 29	162.64
Totals, Agricultural Wealth	7,939,477,000	25.74	791.65
Mines (capital employed)	867,021,000	2.81	86.45
Forests (estimated value of accessible raw materials, pulpwood and capital invested in woods operations)	1,877,000,000	6.09	187.16
Fisheries (capital invested in boats, gear, etc., in primary operations)	33,935,000	0.11	3.38
Central Electric Stations (capital invested in equipment, materials, etc.)	554,327,000	1.80	55.27
capital in rural lands and buildings, duplication ex- cluded)	1,418,040,000	4.60	141.39
Manufactures (materials on hand and stocks in process, duplication excluded)	837, 805, 000	2.72	83.54
invested in machinery and tools and materials on hand)	137,685,000	0.45	13.73
iture and fixtures, delivery equipment and materials on hand). Steam Railways (investment in road and equipment). Electric Railways (investment in road and equipment) Telephones (cost of property and equipment). Urban Real Property (assessed valuations and ex-	1,136,291,000 3,153,351,000 240,111,000 291,589,000	3·68 10·22 0·78 0·95	113.31 314.42 23.94 29.07
empted property and estimate for under valuation by	8.251,011,000	26.75	822.73
Canals (amount expended on construction to March 31, 1930)	241,946,000	0.79	24.12
Harbours (approximate amount expended to March 31, 1930)	367,488.000 149,306,000	1·19 0·48	36.64 14.89
Imported Merchandise in store (estimated at one-half imports during 1929)	649,477,000	2.11	64.76
Automobiles (estimate of the value of automobiles registered)	758,424,000 364,896,000	2·46 1·18	75.62 36.38
Household Furnishings, Clothing, etc. (value estimated from production and trade statistics)	1,370,000,000	4.44	136.61
Specie, Coin and other Currency held by the Government, chartered banks and the general public	201,030,000	0.65	20.04
Totals.	30,840,210,000	100-00	3,075.10

The tangible wealth of Canada, apart from undeveloped natural resources, was estimated at about \$31 billions in 1929. This represented an increase of about \$9 billions since 1921. There is no earlier figure that is strictly comparable, but it is fairly certain that there was a growth of over four times between 1900 and 1929. Agricultural values made up about \$8 billions of the 1929 total, urban real estate over \$8 billions, and steam railways over \$3 billions. Ontario owns about one-third, Quebec over one-quarter, and Saskatchewan just under one-tenth. British Columbia, Alberta and Manitoba follow closely in the order named. The following table gives the provincial distribution.

Provincial Distribution of the National Wealth of Canada, 1929

Province	Estimated Wealth	Percentage Distribution of Wealth	Estimated Population June 1, 1929	opulation Distribution of	
	\$	p.c.	No.	p.c.	S
P.E.I. Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan Alberta. British Columbia.	164,000,000 911,000,000 788,000,000 8,265,000,000 10,628,000,000 1,970,000,000 3,047,000,000 2,406,000,000 2,644,000,000	0·53 2·95 2·56 26·80 34·46 6·39 9·88 7·80 8·57	88,000 515,000 404,000 2,772,000 3,334,000 677,000 883,000 684,000 659,000	0.88 5.14 4.03 27.64 33.24 6.75 8.80 6.82 6.57	1,864 1,769 1,950 2,982 3,188 2,910 3,451 3,518 4,012
Canada 1	30,840,000,000	100.00	10,029,000	100.00	3,075

¹Including Northwest Territories and Yukon.

Production

Under the term "production" are usually included the activities of agriculture, fishing, mining, forestry, power development, manufactures and construction. This does not imply that many other activities, such as transportation, merchandising, professional services, etc., are not also "productive" in a broad economic sense. It is usual, however, to regard the processes involved in the creation of materials or their making over into new forms as constituting "production" in a special sense. Of this a bird's-eye view is given in the table on p. 47, which shows the gross and net value of production in each of the divisions of industry above mentioned. In a second table a summary of the value of total production in Canada is given by provinces.

A distinction is made between "gross" and "net" production. By "net" production is meant the value left in the producer's hands after the elimination of the value of the materials consumed in the process of production. This net figure is a much better criterion for measuring the value of an industry than the gross.

For 1931, as was to be expected, production, both gross and net, showed a falling off from the 1930 level. All six groups of primary production, with the exception of electric power, and all three groups of

secondary production were affected. The total net value of primary production is, in fact, lower for 1931 than it was for each of the years since 1921 when the record was commenced.

Summary by Industries of the Value of Production in Canada, 1930 and 1931

	198	30	1931		
Industry	Gross	Net ¹	Net ¹ Gross		
	\$	\$	\$	\$	
Agriculture Forestry. Forestry. Trapping. Mining. Electric Power Totals, Primary Production. Construction Custom and Repair ² . Manufactures ³ . Totals, Secondary Production ³ Grand Totals ³ .	1,346,363,659 4 440,352,351 63,743,353 9,875,955 325,184,050 164,833,913 2,350,353,281 456,995,000 123,000,000 3,428,970,628 4,008,965,628 5,601,880,583	758,791,743 303,145,169 47,804,216 9,875,955 279,873,578 126,038,145 1,525,528,806 297,046,750 85,200,000 1,761,986,726 2,144,233,476 3,216,746,735	880,053,884* 288,674,002 39,654,811 8,744,962 276,365,319 163,321,565 1,656,814,543 315,482,000 97,000,000 2,698,461,862 3,110,943,862 4,157,733,325	538,192,000 220,650,266 30,517,300 8,744,966 228,029,018 122,310,730 1,128,444,288 205,063,300 71,000,000 1,474,581,85 2,500,203,902	

Gross value minus value of materials consumed in the production process.

* erross value minus value of materiais consumed in the production process.

2 Statistics of Custom and Repair were not collected after 1921 and the totals for 1930 and 1931 were estimated according to the percentage change in the data for manufacturing.

3 The item "Manufactures" includes dairy factories, sawmills, pulpmills, fish canning and curing, electric power production, shipbuilding and certain mineral industries, which are also included in other headings above. This duplication, amounting in 1930 to a gross of \$757,438,326 and a net of \$453,015,547, and in 1931 to a gross of \$610,025,080 and a net of \$378,885,534, is eliminated from the graph totals. ated from the grand totals.

4 This figure includes the amount paid to patrons of dairy factories for milk and cream, and to that extent does not agree with the total gross agricultural production for this year shown on p. 68.

Summary, by Provinces, of the Value of Production in Canada, 1930 and 1931

	19	30	1931		
Province	Gross	Net1	Gross	Net ¹	
	\$	\$	\$	\$	
Prince Edward Island Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia. Yukon. Canada.	25, 436, 519 174, 266, 197 127, 022, 481 1,500, 303, 451 2,450, 173, 078 273, 174, 256 296, 156, 731 329, 898, 695 420, 984, 045 4, 465, 130 5,601, 880, 583	16,635,118 114,402,720 78,772,589 892,076,349 1,380,458,865 142,170,105 134,134,319 184,659,449 268,972,091 4,465,130 3,216,746,735	16,804,299 135,124,783 99,117,055 1,128,131,483 1,800,785,805 195,065,005 168,974'502 251,640,733 292,705,491 4,260,226 4,092,609,441	11,924,262 94,507,795 64,307,571 686,817,209 1,083,600,274 113,396,393 82,691,410 164,947,717 193,751,045 4,260,226	

¹ Gross value minus value of materials consumed in the production process.

It will be seen that manufactures now definitely takes precedence over agriculture in net value of production for the whole of Canada. This has in fact been the case since 1925, but owing to the rapid decline in agricultural prices in 1930 and 1931 the lead of manufactures over agriculture increased substantially. Agricultural production in 1931 represented 21.5 p.c. of the net output of all branches while the corresponding figure for manufactures was 59.0 p.c.. Forestry was in second place among the primary industries in 1931 and mining in third; construction, which ranked third in 1930, was in fourth place.

Manufactures, in 1931, ranked first among both primary and secondary industries in the value of net production. The picture to the right shows an interior view of a Canadian binder twine mill.





Fruit and Vegetable Canning—Delivery of tomatoes at a canning plant.

Photos, Canadian Government Motion Picture Bureau.

National Income

The national income of Canada is necessarily less than its national production, a partial total for which is given in the general survey of production above. But the industries there included engage only five-eighths of those gainfully occupied in Canada. As there is no reason to suppose that those not connected with production as there defined are less "productive" in the broad sense of the term than others, the total value of the net production of 1931 must have been not less than \$4,000,000,000.

In order to arrive at the figure of national income, however, certain heavy deductions from the above amount must be made—deductions especially connected with the maintenance of the industrial equipment of the country—providing not only for depreciation but for obsolescence and replacement by new and improved apparatus of production. Altogether, the charges under this head may have been not less than \$300,000,000. This would leave the 1931 income of the Canadian people at somewhere in the neighbourhood of \$3,700,000,000.

Incomes Assessed for Income War Tax in Canada.—In those countries of the world where an income tax has been established for a considerable time the figures of the assessed income have been generally accepted as furnishing a guide both to the amount and to the distribution of the total

national income by classes. Estimates of the national income, based upon income tax statistics, have been published, for example, in the United Kingdom and in the United States.

In Canada the income tax is a newer thing than in either of the above-mentioned countries; also, in a newer country than either, incomes are to a greater extent received in kind. Both of these considerations render it improbable that so large a percentage of the total national income of Canada is brought under the notice of the income tax authorities as in the United Kingdom or the United States. Nevertheless, the data collected by the Income Tax Branch of the Department of National Revenue, in the course of its administration of the income war tax, are significant both with regard to the total income assessed and with regard to the distribution of that income among various classes of the population, as well as to size of income groups.

In the fiscal year ended 1932, 133,621 individuals and 6,010 corporations paid Dominion income tax on incomes aggregating \$992,606,220, so that for that year slightly less than one-third of the national income would appear to have been subject to income tax by Dominion authorities.

Outside Capital Invested in Canada

A young nation like Canada is usually dependent to a considerable degree on outside capital for the development of its resources. In the opening decades of the century the marked expansion through which Canada passed was largely based on capital imported from the United Kingdom (see table), at least \$1½ billions being imported during 1900-12. During the War the latent capital resources of Canada itself were for the first time exploited on a large scale, nearly \$2,000,000,000 being raised by the Dominion Government. Since the War the outstanding feature in the situation has been the considerable importation of capital from the United States; in 1914 U.S. capital investments were about \$904,000,000; in 1931 they exceeded \$4,000,000,000. British investments in Canada have in the meantime declined by nearly 19 p.c. (see accompanying table).

In spite of the large importation of capital from abroad, Canadian capital probably controls at least 60 p.c. of the securities of all enterprises located on Canadian soil. Outside capital investments in 1929 were less than 20 p.c. of the estimated national wealth in the same year (p. 45).

Capital Investments by Other Countries in Canada, 1914, 1919, 1929 and 1931

Country	19141	19 192	19292	19312
United States	2,711,841,000 177,729,000	1,800,435,000 2,606,848,000 173,493,000 4,580,776,000	3,608,521,000 2,128,489,000 155,409,000 5,892,419,000	4,107,803,000 2,204,858,000 165,217,000 6,477,878,000

¹ Estimated by various authorities. ² Estimated by Dominion Bureau of Statistics.

It must also be borne in mind that Canadians have invested large amounts of capital abroad. The Bureau estimates that Canadian investments in other countries amounted to \$1,831,310,000 at the beginning of 1931, or 28 p.c. of the amount of outside investments in Canada. Of this \$1,047,285,000 was placed in the United States, \$84,826,000 in the United Kingdom and \$699,198,000 in other countries.

CHAPTER IV

POPULATION—BIRTHS, DEATHS AND MARRIAGES—IMMIGRATION—ABORIGINAL RACES

Population

The population of the earth is estimated at approximately 2,000,000,000.1 The British Empire which covers slightly less than one-quarter of the land area of the earth, has slightly less than one-quarter of the world's population, but Canada, which occupies over one-quarter of the area of the British Empire, or about one-sixteenth of the land area of the earth has only about one-forty-eighth of the population of the former or roughly one-two-hundredth that of the latter. While there is no absolute standard for population density, so much depending on extent of resources, the rate of increase in productivity of land as a result of invention, etc., a certain minimum density is desirable and even necessary to effective social and political life. As far as Canada is concerned such a minimum effective density is far from having been attained in the country as a whole.

Areas and Populations of the British Empire, and its Principal Component Parts for 1931, or latest year available, Compared with 1921

Country	Area in	Population,	Population,
	Square	Census of	Census of
	Miles	1921	1931
British Empire United Kingdom of Great Britain and N. Ireland England Wales Scotland. Northern Ireland. Irish Free State Canada. Union of South Africa. Australia. New Zealand. Newfoundland and Labrador.	13,355,426 94,200 5J,900 7,400 30,500 5,400 27,137 3,692,864 471,917 2,974,581 104,751 162,734	449,583,000 44,151,196 35,230,225 2,656,474 4,882,497 } 4,354,003°{ 8,787,949 6,928,580 5,435,734 1,218,913 262,938	494,082,0001 46,041,485 37,354,917 2,593,014 4,842,554 1,251,0003 2,957,0003 10,376,786 8,192,0004 6,621,4775 1,513,4166 281,5497

¹ These Empire population figures are computed from the census figures for 1931, or the official estimates as at Dec. 31, 1931 (where census figures are not available), of the respective Dominions and Colonies published in the League of Nations Year Book, 1932-33. 2 Official estimate 1921. This covered the whole of Ireland. ³ Official estimate 1931. 4 Official estimate 1932. A census of European population only, taken May, 1931, gave 1,827,166 compared with 1,519,488 in 1921. ⁵ Preliminary count, census of June 30, 1933. The figures are exclusive of full-blooded Australian aborigines. The 1931 census was postponed. ⁶ Official estimate of mean population of 1931; census postponed. ७ Official estimate of mean population of 1231; census postponed. ७ Official estimate of mean population of Labrador.

In addition to growth and racial composition an important consideration which should receive attention in any detailed study of population is the distribution of population as between the various age-classes, and the effects of immigration and emigration, birth rate and mortality on the

¹ The Statistical Year Book of the League of Nations, 1932-33, gives the population of the world as 2,024,500,000 not including estimates of certain populations, chiefly in the interiors of Asia and Africa, where censuses are incomplete or do not exist.

age-groups. Space, however, permits only of the broadest treatment of Canada's population as affording a measure of the general economic progress of the country.

Historical.—The credit of taking what was perhaps the first census of modern times belongs to Canada, the year being 1666 and the census that of the little colony of New France. A population of 3,215 souls was shown. By the date of the Conquest, nearly a hundred years later, this had increased to 70,000, what is now the Maritime Provinces having another 20,000. Later came the influx of the Loyalists and the gradual settlement of the country, and Canada began the nineteenth century with a population of probably 250,000 or 260,000. Fifty years later the total was about 2,400,000 for the territory now included in the Dominion of Canada. Rapid development now followed and the first census after Confederation (1871) saw the Dominion launched with a population of 3,689,257.

Statistics of Population in Canada, Census Years 1871 to 1931

-							
Provinces	1871	1881	1891	1901	1911	1921	1931
Ont Que N. B. N. S. B. C. P. E. I. Man Sask. Alta Yukon N. W. T. 1	36,247 94,021 25,228	1,926,922 1,359,027 321,233 440,572 49,459 108,891 62,260 	2,114,321 1,488,535 321,263 450,396 98,173 109,078 152,506	1,648,898 331,120 459,574 178,657 103,259 255,211 91,279 73,022 27,219	2,527,292 2,005,776 351,889 492,338 392,480 93,728 461,394 492,432 374,295 8,512 6,507	2,933,662 2,360,665 ² 387,876 523,837 524,582 88,615 610,118 757,510 588,454 4,157 7,988	3,431,683 2,874,255 408,219 512,846 694,263 88,038 700,139 921,785 731,605 4,230 9,723
Totals	3,689,257	4,324,810	4,833,239	5,371,315	7,206,643	8,787,9492	10,376,786

¹ The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and Yukon and to extend the boundaries of Quebec, Ontario and Manitoba. ² Revised in accordance with the Labrador award of the Privy Council, Mar. 1, 1927; total includes 485 members of the Royal Canadian Navy.

After 1873 and until the end of the century economic conditions within the Dominion were anything but buoyant. The censuses of 1881, 1891 and 1901 reflected this state of affairs. That of 1881 showed a gain of 635,553 or 17·23 p.c., but in neither of the next two decades was this record equalled, the gains in each being under 550,000 or 12 p.c. At the end of the century the population of Canada had reached but 5½ millions, though expectation had set a figure very much higher as the goal for 1900.

Analyses of Growth.—The general rate of population increase in Canada in the opening decade of the present century was 34 p.c., the greatest for that decade of any country in the world. In the second decade the rate was 22 p.c., again the greatest with the one exception of Australia, whose growth was greater by a fraction of 1 p.c. A century earlier the United States grew 35 p.c. decade by decade until 1860, but with this exception there has been no recorded example of more rapid national progress than that of Canada in the twentieth century. In 1871, only 2.96 p.c. of the population dwelt west of the lake of the Woods. In 1921 the proportion was 28.37 p.c. and in 1931, 29.50 p.c.—3,061,745 people compared with 110,000 at Confederation.

As between rural and urban distribution the change is perhaps more striking than in any other field. Though we are still largely agricultural, our town dwellers now, for the first time, exceed the numbers living upon the land (5,572,058 urban and 4,804,728 rural in 1931). Fifty years ago the towns and cities of Canada accounted for only 19.58 p.c. of the people (722,343 urban and 2,966,914 rural), and at the beginning of the present century the percentage was but 37. In 1871 the Dominion had 14 cities, 49 towns, and 134 villages; in 1921 there were 101 cities, 461 towns, and 881 incorporated villages; and in 1931, 112 cities, 478 towns and 1,016 incorporated villages. It is the larger cities that have grown the fastest.

Rural and Urban Population

For the purposes of the census, the population residing in cities, towns and incorporated villages has been defined as urban, and that outside of such localities as rural. On the basis of this classification, urban communities absorbed somewhat over two-thirds of the total increase in population between 1921 and 1931, with the result that the urban population of Canada in 1931 exceeded the rural by 767,330. Out of every 1,000 persons in the country, 463 were resident, on June 1, 1931, in rural and 537 in urban communities, as compared with 505 in rural and 495 in urban communities on June 1, 1921. Details of the population of all cities and towns having 15,000 inhabitants and over, are given by censuses from 1891 to 1931 in a second table.

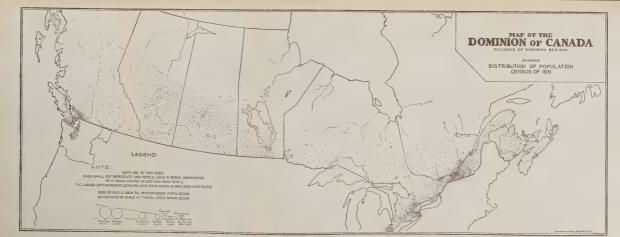
All the larger cities have in their neighbourhoods growing "satellite" towns or other densely settled areas in close economic relationship with the central municipality. Computed on this basis of "metropolitan area", the total populations of the larger cities at the census of 1931 were as follows: "Greater Montreal", 1,000,157; "Greater Toronto", 808,864; "Greater Vancouver", 308,340; "Greater Winnipeg", 280,202; "Greater Ottawa" (including Hull), 175,988; "Greater Quebec", 166,435; and "Greater Hamilton", 163,710.

Rural and Urban Populations, by Provinces, 1921 and 1931

Province or Territory	19	1921		1931		Numerical Increase in Decade 1921-31	
Trovince of Territory	Rural	Urban	Rural	Urban	Rural	Urban	
Prince Edward Island	263,432 1,038,096 1,227,030 348,502 538,552 365,550 277,020 2,851 7,988	19,093 227,038 124,444 1,322,569 1,706,632 261,616 218,958 222,904 247,562 1,306	67,653 281,192 279,279 1,060,649 1,335,691 384,170 630,880 453,097 299,524 2,870 9,723	20,385 231,654 128,940 1,813,606 2,095,992 315,969 290,905 278,508 394,7391 1,360	-1,869 -15,607 15,847 22,553 108,661 35,668 92,328 87,547 22,504 19 1,735	1,292 4,616 4,496 491,037 389,360 54,353 71,947 55,604 147,177 54	
Canada	4,435,827	4,352,122	4,804,728	5,572,058	368,901	1,219,936	

¹ This includes South Vancouver and Point Grey, with 1921 populations of 32,267 and 13,736 respectively, which were then classified as "rural".

² Members of the Royal Canadian Navy were counted at their homes in the census of 1931.





Populations of Cities and Towns having over 15,000 Inhabitants in 1931, Compared with 1891, 1901, 1911 and 1921

Note.—The cities and towns in which a Board of Trade exists are indicated by an asterisk (*) and those in which there is a Chamber of Commerce by a dagger (†). In all cases the populations for previous censuses have been rearranged as far as possible to compare with those of the same areas in 1931.

City or Town	Province		1	Population	18	
	1 TOVINCE	1891	1901	1911	1921	1931
†Montreal	Quebec	256,723	328,172	490,504	618,506	818,57
Toronto	. Ontario	181,215	209,892	381,833	521,893	631,20
Vancouver		13,709	29,432	120,847	163,220	246,5
Winnipeg	. Manitoba	25,639	42,340	136,035	179,087	218,7
Hamilton		48,959	52,634	81,969	114,151	155,5
Quebec		63,090	68,840	78,710	95,193	130,5
Ottawa		44,154	59,928	87,062	107,843	126,8
Calgary		3,876	4,392	43,704	63,305	83,7
Edmonton			4,176	31,064	58,821	79,1
ondon		31,977	37,976	46,300	60,959	71,1
Windsor		10,322	12,153	17,829	38,591	63,1
Verdun		296	1,898	11,629	25,001	60,7
Halifax		38,437	40,832	46,619	58,372	59,2
Regina	. Saskatchewan	-	2,249	30,213	34,432	53,2
Saint John		39,179	40,711	42,511	47,166	47,5
Saskatoon		10 041	113	12,004	25,739	43.2
Victoria	British Columbia	16,841	20,919	31,660	38,727	39,0
Three Rivers		8,334	9,981	13,691	22,367	$\begin{vmatrix} 35,4\\ 30,7 \end{vmatrix}$
Kitchener		7,425	9,747	15,196	21,763	30.1
Brantford		12,753	16,619	23,132	29,440	29,4
Hull		11,264	13,993	18,222	24,117	28.9
Sherbrooke		10,097	11,765	16,405	23,515	28,6
Outremont		795	1,148	4,820	13,249	2 6 , 2
Fort William	Ontario	2,176	3,633	16,499	20,541	24.7
St. Catharines		9,170 $3,076$	9,946	12,484 14,579	17,593	24.2
Kingston		19.263	17,961	18.874	21,753	23,4
Oshawa		4,066	4,394	7,436	11,940	23,4
Sydney	Nova Scotia	2,427	9,909	17,723	22,545	23,0
Sault Šte. Marie		2,414	7,169	14,920	21,092	23.0
Peterborough		9,717	12,886	18,360	20,994	22,3
Moose Jaw	Saskatchewan		1,558	13,823	19,285	21,2
Guelph		10.537	11,496	15,175	18,128	21.0
Glace Bay		2,459	6,945	16,562	17,007	20.7
Moncton	New Brunswick	8,762	9,026	11,345	17,488	20,6
Port Arthur	Ontario	2,698	3.214	11,220	14,886	19,8
Niagara Falls	Ontario	3,349	5,702	9,248	14,764	19,0
achine	. Quebec	4.819	6,365	11,688	15,404	18,6
Sudbury	. Ontario	-, -	2,027	4,150	8,621	18,5
Sarnia	. Ontario	6,692	8,176	9,947	14,877	18,1
Stratford	. Ontario	9,500	9,959	12,946	16,094	17,7
New Westminster	. British Columbia	6,678	6,499	13,199	14,495	17,5
Brandon	. Manitoba	3.778	5,620	13,839	15,397	17,0
St. Boniface	. Manitoba	1,553	2,019	7,483	12,821	16,3
North Bay	. Ontario	-	2,530	7,737	10,692	15,5
St. Thomas	Ontario	10,366	11,485	14,054	16,026	15,4
Shawinigan Falls	. Quebec	_		4.265	10,625	15,3

Racial Origins

The object of securing information on racial origin at the census is to ascertain from what basic ethnic stocks the Canadian population, more particularly the recently immigrated population, is derived. The answer "Canadian" is not accepted under this heading, as the purpose of the question is to obtain, in so far as possible, a definition of "Canadian" in terms of racial derivation. It is clear that to accept the answer "Canadian" to the question on racial origin would confuse the data and defeat the purpose for which the question is asked.

Racial Distribution.—The total increase in population over the decade 1921-31 was 1,588.837. The population of English origin increased by only 196,061 compared with 722,208 in the previous decade; that of Scottish origin by 172,725 compared with 175,745; and that of Irish origin by 123,005 compared with 57,419. The population of British origin, taken together. increased from 4,868,738 to 5,381,071, or 512,333, between 1921 and 1931. This represented 32 p.c. of the total increase as compared with 61 p.c. of the total increase for the previous decade. On the other hand the population of French origin increased from 2,452,743 in 1921 to 2,927,990 in 1931, or by 475,247 (slightly under 30 p.c. of the total increase for the decade) and showed the greatest absolute increase for any decade since 1871. In regard to the minor racial groups which make up the population, comparison of the post-war numerical strength of certain ethnic stocks in Canada with pre-war returns cannot be made with any certainty owing to the new national and racial alignments in Central and South Eastern Europe following the Great War.

The racial origin of the population of Canada, by provinces and territories, is given below for the census years 1901 to 1931.

Origins of the People, Census Years 1901-31.

Origin	1901	1911	1921	1931
British— English	No. 1,260,899 988,721 800,154 13,421	No. 1,823,150 1,050,384 997,880 25,571	No. 2,545,358 1,107,803 1,173,625 41,952	No. 2,741,419 1,230,808 1,346,350 62,494
Totals, British	3,063,195	3,896,985	4,868,738	5,381,071
French Austrian Belgian Bulgarian and Roumanian Chinese Czech (Bohemian and Moravian) Dutch Finnish German Greek Hebrew Hungarian Indian and Eskimo [‡] Italian Japanese Negro. Polish Russian Scandinavian ² Ukrainian Ukrainian Yugoslavie Varjous Unspecified	1,649,371 10,947 2,994 17,312 33,845 2,502 310,501 291 16,131 1,549 127,941 10,834 4,738 17,437 6,285 31,042 5,682 7,000 31,539	2,054,890 42,535 9,593 5,875 27,774 54,986 15,497 393,320 3,594 75,681 11,605 105,492 45,411 9,021 16,877 33,365 43,142 107,535 74,963 31,157 147,345	2,452,743 107,671 20,234 15,235 39,587 8,840 117,505 5,740 126,196 13,181 113,724 66,769 15,868 18,291 53,403 100,064 167,359 106,721 3,966 28,796	2,927,990 48,639 27,585 32,216 46,519 30,401 148,962 43,855 473,544 9,444 156,726 40,582 128,890 98,173 23,342 19,456 145,503 88,148 228,049 225,113 16,174 27,476 8,898
Grand Totals	5,371,315	7,206,643	8,787,949	10,376,786

Includes "half-breeds" in 1901.
 Includes Danish, Icelandic, Norwegian and Swedish; in 1921 they numbered respectively, 21,124, 15,876, 68,856, and 61,503; in 1931, 34,118, 19,382, 93,243 and 81,306.

Religions

Of the total population in 1931 (10,376,786), 4,285,388 or 41·30 p.c. were members of the Roman Catholic faith (including 186,654 Greek Catholics). The United Church of Canada, with 2,017,375 members, or 19·44 p.c. of the population, was second and the Anglicans, with 1,635,615 or 15·76 p.c., third. The Presbyterian was the next largest group with 870,728 members or 8·39 p.c. in 1931. According to the census returns, 0·15 p.c. did not state their religion and 0·20 p.c. were classed as of "no religion". Statistics of religions for the past four census years follow:—

Membership of the Eight Leading Religious Denominations in Canada, 1901, 1911, 1921 and 1931

Religion	1901	1911	19214	1931
Roman Catholic United Church Anglican Presbyterian Baptist ³ Lutheran Jewish Greek Orthodox	681,494 842,531	2,833,041 1,043,017 1,116,071 382,720 229,864 74,564	3,389,626 1,407,780 1,409,406 421,730 286,458 125,197	4,285,3881 2,017,3752 1,635,615 870,7282 443,341 394,194 155,614 102,389

¹ Including 186,654 Greek Catholics. In earlier censuses only small numbers were involved and Greek Catholics and Greek Orthodox were included under the general term "Greek Church". A rapid increase in membership of both Greek Catholics and Greek Orthodox has been shown for recent censuses and, since the former owe obedience to the Pope in matters of faith, they have been included with the Roman Catholics for 1931.

² Practically all Methodists and Congregationalists, and a large number of Presbyterians united to form the United Church of Canada in 1925. ³ Including Tunkers. ⁴ Figures adjusted according to the Labrador award of the Privy Council, Mar. 1, 1927.

Membership of the Eight Leading Denominations, by Provinces and Territories, 1931

Province	Roman Catholic	United Church	Anglican	Presby- terian	Baptist	Lutheran	Jewish	Greek Orthodox
P.E.I. N.S. N.B. Que. Ont. Man. Sask. Alta. B.C. Yukon.	39,105 162,754 188,098 2,463,160 744,740 189,693 233,979 168,408 90,852	21,979 110,548 61,176 88,253 973,768 176,240 243,399 176,816 164,750 352	5,074 88,738 48,931 149,843 764,130 128,385 126,837 .112,979 205,047 2,299	14,813 48,960 16,260 59,532 450,664 55,720 67,954 72,069 84,183 432	5,066 82,098 83,853 10,970 171,305 13,483 22,613 30,496 23,395	76 7,949 969 8,261 97,022 46,892 113,676 82,411 36,635 239	19 1,935 1,257 59,736 62,094 19,193 5,047 3,663 2,666	6 315 75 8,992 16,387 15,774 31,126 26,427 3,274
N.W.T	3,932	94	3,352	141	18	64	2	5
Canada	4,285,388	2,017,375	1,635,615	870,728	443.341	394,194	155,614	102,389

Sex and Age Distribution

The population of Canada in 1931 was made up of 5,374,541 males and 5,002,245 females. Thus there were 518 males and 482 females per thousand. The masculinity of the population has increased in the eastern provinces and decreased in the western ones, where it was formerly greatest. A preponderance of males is common in all new countries where immigration has played an important part in building up the population. Tables giving the sex distribution and the masculinity by provinces for the census years 1901, 1911, 1921 and 1931 are given on p. 58.

CANADA'S FIVE

1. Aerial View of Vancouver, looking north. 2. Montreal, looking southeast from Mount Royal. 3. False Cree ver Harbour looking east. 6. Winnipeg showing Royal Alexandra Hotel and Railway Station. 7. View of St., Hamilton, looking north—The rapid, though orderly and substantial growth of Canadian cities 1931 census, show, for the first time, that the Dominion's urban population exceeds the rural.

EADING CITIES



Vancouver, looking towards the Main Business Section. 4. Skyline of Toronto from the Waterfront. 5. Vancouportion of Montreal Harbour. 8. Gore Park and Cenotaph, Hamilton. 9. Aerial view of Toronto. 10. James accounted for by the great increase in manufacturing and trade in the present century. The results of the

Sex Distribution, by Provinces, Census Years 1901-31

Province	1901		1911		1921		1931	
	Males	Females	Males	Females	Males	Females	Males	Females
P.E.I. N.S. N.B. Que Ont. Man. Sask Alta. B.C. Yukon. N.W.T. Canada.	51,959 233,642 168,639 824,454 1.096,640 49,431 41,019 114,160 23,084 10,176	225, 932 162, 481 824, 444 1, 086, 307 116, 707 41, 848 32, 003 64, 497 4, 135 9, 953	251,019 179,867 1,012,815 1,301,272 252,954 291,730 223,792 251,619 6,508 3,350	241,319 172,022 992,961 1,226,020 208,440 200,702 150,503 140,861 2,004 3,157	197,351 1,179,726 1,481,890 320,567 413,700 324,208 293,409 2,819	190,525 1,180,939 1,451,772 289,551 343,810 264,246 231,173	263,104 208,620 1,447,124 1,748,844 368,065 499,935 400,199 385,219 2,825 5,214	249,742 199,599 1,427,131 1,682,839 332,074 421,850 331,406 309,044 1,405 4,509

¹ Includes 485, Royal Canadian Navy. The 1921 totals are revised in accordance with the Labrador award of March 1, 1927.

Births, Deaths and Marriages

Canada has a national system of vital statistics, under the Bureau of Statistics and the Registrars-General of the several provinces, dating from 1920. The figures for 1931 and 1932 are compared, by provinces, with those of 1921 in the accompanying table.

Births, Deaths and Marriages in Canada, 1921, 1931 and 1932

	Births			Deaths			Marriages		
Province	1921	1931	19321	1921	1931	19321	1921	1931	19321
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Canada ² . P.E. Island Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan. Alberta. Br. Columbia.	257, 728 2, 156 13, 021 11, 465 88, 749 74, 152 18, 478 22, 493 16, 561 10, 653	240,473 1,879 11,615 10,801 83,606 69,209 14,376 21,331 17,252 10,404	235,143 2,027 11,584 10,810 82,216 66,773 14,124 20,769 16,689 10,151	34,551 5,388 5,596 4,940	6,066 5,302	104,190 1,051 6,131 4,554 33,088 36,462 5,341 6,036 5,386 6,141	69,732 518 3,550 3,173 18,659 24,871 5,310 5,101 4,661 3,889	66,591 490 3,394 2,544 16,783 23,771 4,888 5,700 5,142 3,879	62,514 456 3,195 2,380 15,117 22,224 4,729 5,772 5,043 3,598
	Rates per 1,000 population								
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Canada ² P.E. Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan. Alberta Br. Columbia	29·4 24·3 24·9 30·2 37·6 25·3 30·3 29·7 28·1 20·3	23·2 21·4 22·6 26·5 29·1 20·2 20·5 23·1 23·6 15·0	22·4 23·0 22·6 26·4 28·3 19·3 20·0 21·4 22·6 14·4	11·5 13·6 12·3 14·2 14·2 11·8 8·8 7·4 8·4 8·0	10·1 10·4 11·6 11·4 12·0 10·4 7·6 6·6 7·2 8·8	9·9 11·9 12·0 11·1 11·4 10·5 7·6 6·2 7·3 8·7	8·0 5·8 6·8 8·4 7·9 8·5 8·7 6·7 7·9	6.4 5.6 6.6 6.2 5.8 6.9 7.0 6.2 7.0 5.6	6·0 5·2 6·2 5·8 5·2 6·4 6·7 5·9 6·8 5·1

¹ Preliminary figures.

² Exclusive of Yukon and the Northwest Territories.

Divorces granted in Canada have increased from 19 in 1901 to 51 in 1910, to 429 in 1920, to 785 in 1928, to 816 in 1929, to 875 in 1930, but decreased to 684 in 1931, owing to fewer divorces granted in Ontario as a result of the change in system and delay in dealing with applications during the transfer from Dominion to provincial jurisdiction. For the calendar year 1932 a new high total of 887 was recorded.

Immigration

Total immigrants into Canada during the fiscal year 1933 numbered 19.872 as compared with 25,752 in the fiscal year 1932 and 88,223 in 1931.

The number arriving from the United Kingdom was 3,097 as compared with 7,088 and 27,584 in 1932 and 1931 respectively; immigrants from the United States totalled 13,196 in 1933 as compared with 14,297 and 24,280 respectively for the two previous years; from other countries the number was 3,589 as compared with 4,367 and 36,359 respectively.

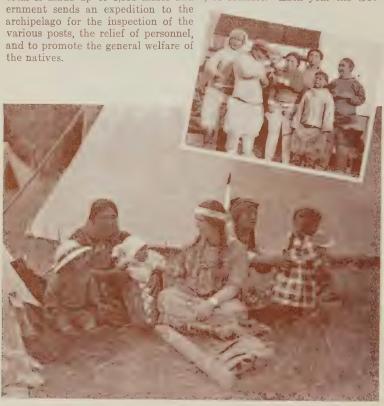
The Aboriginal Races

Indians.—The Indians of Canada are wards of the Department of Indian Affairs and number, according to the 1931 census, 122,911 made up by provinces as follows: P.E.I., 233; N.S., 2,191; N.B., 1,685; Que., 12,312; Ont., 30,368; Man., 15,417; Sask., 15,268; Alta., 15,249; B.C., 24,599; Yukon, 1,543; N.W.T., 4,046. The total is made up of 62,943 males and 59,968 females. A small yearly increase is evident.

Indians are minors under the law and their affairs are administered by the Department under the authority of the Indian Act. The system of reserves, whereby particular areas of land have been set apart solely for the use of Indians, has been established in Canada from the earliest imes. It was designed to protect the Indians from encroachment, and to provide a sort of sanctuary where they could develop unmolested until advancing civilization had made possible their absorption into the general body of the citizens. Reserves have been set aside for the various bands of Indians throughout the Dominion, and the Indians located thereon are under the supervision of the local agents of the Department. The activities of the Department, as guardian of the Indians, include the control of Indian education (See p. 176), health, etc., the development of agriculture and other pursuits among them, the administration of their funds and legal transactions and the general supervision of their welfare. The local administration of the Indian bands on the reserves scattered throughout the Dominion is conducted through the Department's agencies, of which there are, in all, 116.

The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised he ceases to be an Indian under the law, and acquires the full status of citizenship. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem. Indians who become enfranchised lose the special protection attached to their wardship, so that it is necessary to guard against premature enfranchisement.

Eskimos.—Unlike the Indian tribes which are scattered throughout Canada, the Eskimos are limited to the Northwest Territories, chiefly the northern fringe of the mainland and the Arctic Archipelago. The Eskimo is a nomad but lives for the most part along the Arctic littoral, not wandering far inland, since he depends for his subsistence largely on marine mammals and fish. The administration of this race was carried on along with that of the Indians prior to 1927, when the Government transferred the care of the Eskimos to the Department of the Interior. According to the 1931 census the Eskimos in Canada number 5,979 made up by provinces as follows: Que., 1,159; Man., 62; Alta., 3; Yukon, 85; N.W.T., 4,670. The total is made up of 3,116 males and 2,863 females. Each year the Gov-



An Indian Family Group dressed for the Annual Indian Celebrations at Banff. Inset: A group of Baffin Island Eskimos.

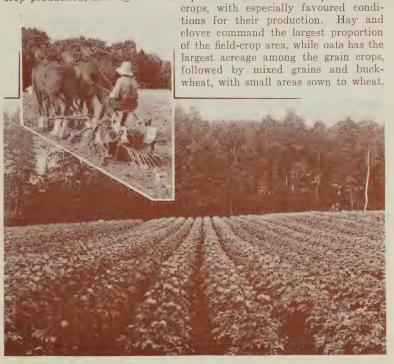
Photos, courtesy Department of the Interior.

CHAPTER V

AGRICULTURE

The climate, soil and acquired capital facilities of Canada are such as to produce a wide variety of farm and forest products common to the temperate zone. This outstanding feature will be evident from a brief consideration of the prevailing regional types of farming in the Dominion.

The Maritime Provinces show a considerable regional difference in crop production, although fruit and potatoes are the most important cash



A Potato Crop in Blossom, Dominion Experimental Farm, Charlottetown, P.E.I. Inset—A Potato Digger at Work. The Central Experimental Farm at Ottawa purchases specimens of the latest agricultural machinery and thoroughly tests them in order to be in a position to advise farmers on their usefulness and reliability.

Photos, courtesy Central Experimental Farm, Ottawa, and Canadian Government Motion Picture Bureau.

The province of Quebec is adapted essentially for mixed farming, with large regions specializing in dairying. The forage and coarse grains crops comprise over 90 p.c. of the total field-crop area, potatoes and buckwheat having the largest acreages among the strictly cash crops. The farming population lives 'off the farm' to the greatest possible extent, and revenues from such items as maple sugar, cordwood, and domestic work

are very important. The boundaries of the farming area are gradually being pushed further north and west.

The province of Ontario shows probably the greatest regional variation in types of farming, ranging from the highly specialized fruit farms of the Niagara peninsula to the pioneer farms on the wooded lands of northern Ontario. As in Quebec, the agriculture of the whole province shows a marked predominance of forage crops and coarse grains, but the acreages of cereals are much higher than in Quebec. In some counties, such as Kent, Simcoe, Essex and Middlesex, the wheat crop is relied upon to return a fair share of the cash income. Sugar beets cover considerable acreages in Kent, Essex and Lambton, while tobacco is important in Essex, Elgin and Norfolk. Dairy farming prevails in scattered districts over the province, providing large proportions of the incomes on farms along the Ottawa and St. Lawrence valleys and in the vicinity of Toronto.

Over two-thirds of the field-crop acreage of Canada is concentrated in the three prairie provinces, and most of this area is seeded to the grain crops, with wheat predominant. Roughly speaking, the specialized wheat areas cover the southern short-grass plains from the Red River valley of Manitoba to the foothills of Alberta and attain their greatest width in central Saskatchewan. In the park belt, lying mostly north of this region, mixed farming is practised, with large acreages of coarse grains and

natural hay utilized for live-stock feeding.

British Columbian agriculture is relatively intensive, dependent mainly on tree and bush fruits, berries and vegetables. Poultry and dairy farms are numerous along the southwestern coast, while ranching is confined to

the interior valleys.

Canada has about 350 million acres of land suitable for farming purposes and, of this total, $163\frac{1}{2}$ million acres are in occupied farms, of which nearly 86 million acres are improved land. Even at the very low valuations existing in 1932, farm land was valued at \$1,948,070,000. Buildings on farms represented a further investment of \$1,342,924,000 at 1932 valuations.

Although Canada has a relatively small non-agricultural population for the absorption of surplus production, approximately 85 p.c. of our total agricultural production is consumed in Canada, with the remaining 15 p.c. finding markets abroad. Agriculture, however, provides roughly 40 p.c. of our total national export trade, the most important items being grain and grain products, cheese, live stock and live-stock products (principally

meats and hides), potatoes and apples.

Again, our agriculture is so diversified that imports of agricultural products form a small proportion of our total imports. Imported agricultural commodities consist chiefly of tropical fruits and spices and processed products from other countries with temperate climates, particularly the United Kingdom. Over one-half of our agricultural imports are practically incapable of production in Canada, consisting of such items as tropical fruits, rubber, tea, vegetable oils, coffee, chicory and nuts. Among the processed products of agricultural origin, cotton and silk manufactures form the largest proportion.

Government Assistance to Agriculture

Agricultural progress in Canada is typified and measured not only by the expansion of crop acreages and production and by the increase in live stock, but by the improvement in methods of production, by the production of higher quality commodities, and by the careful supervision of grading to meet the standards and requirements of both domestic and export markets. In these important fields the Canadian farmer reaps many advantages from governmental and institutional assistance.

Outstanding among these activities is the work of the Dominion Experimental Farms and Stations, begun in 1896 with 5 farms of 3,472 acres and at the present time including 26 experimental farms and stations with a total area of 12,818 acres.



Greenhouses of the Cereal Division. Plant-breeding work, nutritional tests and experiments in cultural practices, of great value to farmers florists, are conducted at

and providing ideal conditions for hybridization work.

the Central Experimental Farm. The winter use of greenhouses has proved extremely useful in shortening the time required to reach the objective sought

> Photos, Canadian Government Motion Picture Bureau and Central Experimental Farm, Ottawa.

The experimental farms and stations work in unity through central direction from Ottawa, but are engaged in experimental and practical work designed to improve agricultural methods in their respective dis-Their success in this main endeavour becomes more evident annually and their officers are widely recognized as authorities on agricultural matters. In addition, a chain of Dominion Illustration Stations has been organized throughout Canada for the general purpose of demonstrating precisely and practically the effective and economical methods of husbandry which are suited to their districts. Railway and land companies have also been prominent in disseminating agricultural advice.

The work of the Dominion Departments of Trade and Commerce,

The work of the Dominion Departments of Trade and Commerce, and Agriculture, in the standardization and grading of the important agricultural products, has also been a significant factor in building up

export markets.

Each of the nine provinces, under Section 95 of the B.N.A. Act, has its Department of Agriculture, and everywhere the provinces endeavour to assist their farmers by educational and extension work, and in most cases by the organization of co-operative marketing. Agricultural colleges maintained by the provinces are the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the Manitoba Agricultural College at Winnipeg. Three agricultural colleges in Quebec are assisted by the Provincial Government, while faculties of agriculture are found in the provincial universities of Saskatchewan, Alberta and British Columbia.



The Cold Storage Warehouse, Montreal, operated by the Montreal Harbour Commission. This huge warehouse has 4,628,000 cu. ft. of refrigerator space.

Photo, Canadian Government Motion Picture Bureau.

The Canadian Grain Trade.—The natural disadvantages involved in the wide separation of the prairie grain fields from the markets of Europe have been considerably lessened by continued efforts to improve the marketing and transportation facilities. The Great Lakes and the St. Lawrence river have been used to good advantage, since the inception of the movement of grain to the eastern Canadian and United States seaboards. The westward route through Vancouver has been established for a number of years, but not until the crop year 1921-22 did the movements reach any appreciable volume, while grain shipments through the port of Churchill on Hudson bay, initiated in 1931, have increased in volume. The movement of grain at both interior and terminal points has been regulated by adequate elevator facilities. The volume of grain shipments has expanded greatly since the turn of the

century and the necessary handling facilities have kept pace. The operation of the licensed elevators of Canada is covered by the Canada Grain Act, which was extensively revised in 1930. The number of these elevators has grown from 523 with a capacity of 18,329,352 bushels at the end of the last century to 5,895 with a capacity of 418,520,460 bushels in 1933. They are divided into three principal groups: the Western Country, the Terminal and the Eastern elevators.

The Western Country elevators are those that handle grain direct from the farmer: in 1900-01 they numbered 518 with a total capacity of 12,759,352 bushels; in 1931-32 the number had increased to 5,750 with a capacity of 192,453,800 bushels. Some of these, however, have been

closed during the recent period of light crops.

Terminal elevators (as defined by the Canada Grain Act) are located at Fort William, Port Arthur, Churchill, and Vancouver. In 1900-01 there were only five licensed elevators at the head of the lakes with a total capacity of 5,570,000 bushels; the number, by 1932, had increased to thirty-one with a total capacity of 92,782,210 bushels. Vancouver is a comparatively recent elevator centre; there were two licensed elevators there in 1906-07 (the first year reported) with a joint capacity of 200,000 bushels, four in 1915-16 with a capacity of 1,631,000 bushels and 12 in 1932-33 with a total capacity of 21,228,000 bushels.

The Eastern elevators are located along the Lower Lakes, the river St. Lawrence and the Canadian seaboard. They were eighteen in number in 1908-09 and had a total capacity of 14,826,000 bushels; in 1932-33 the number was twenty-eight with a total capacity of 75,587,000 bushels.

The strictest supervision of grading is maintained in order to establish the high quality of Canadian grain abroad. Cleaning and drying facilities are available at both interior and terminal elevators, and grading is superintended by the Board of Grain Commissioners, established in 1912 for the

management and control of the grain trade of Canada.

The export trade in Canadian wheat has greatly increased in the past half-century, although the actual amounts exported in recent years vary widely with growing conditions in Canada and the state of markets abroad. Record levels of wheat and wheat flour exports were reached following the bumper crop of 1928, and in the crop year 1928-29, 407,564,187 bushels of wheat and wheat flour (expressed as wheat) were exported from Canada. Although Canada stands third to the United States and Russia among the wheat-producing countries of the world, she is normally first among the wheat-exporting nations. Even with the relatively short crops of the past few years, this position has been well maintained. During the past crop year 1932-33, the exports amounted to 264,304,326 bushels, while the production of wheat was 428,514,000 bushels.

The International Wheat Agreement

On Aug. 25, 1933, twenty-one countries signed the International Wheat Agreement in London. A few days later, the Argentine endorsed the treaty and now twenty-two importing and exporting countries are bound by the terms of the agreement. The Wheat Agreement marked a definite advance in international economic co-operation. The conflicting interests of importing and exporting countries were reconciled in an agreement designed to improve world wheat prices.

The Wheat Agreement is the result of many factors and conditions which have influenced the fortunes of the wheat industry during the past five years. From 1929 to the early part of 1933 importing countries and, to a lesser extent, exporting countries endeavoured to protect themselves from the immediate effects of low wheat prices and the persistence of a world surplus of wheat. It is important to note, however, that up to the early months of 1933, it cannot be said that actions taken by importing countries or by exporting countries implied a solution of the wheat problem itself. In fact, action taken by importing countries to restrict imports of wheat and to promote domestic production constituted a policy that could be of no direct assistance in solving the problem of a world wheat surplus. During these four years the hope of reducing the world surplus of wheat in exporting countries lay in increased consumption through feeding, in the possibility of decreased yields over a wide area, and in the possibility of a trade revival or the opening of new markets for wheat. In spite of reduced crops on several occasions in Canada, the United States, and the Danube area, and in spite of a larger market in the Orient during the past two years, year-end stocks of wheat in exporting countries were considerably larger in 1933 than in 1930.

Early in 1933 the viewpoint was advanced that if corrective action on the part of various countries interested in wheat was the hope of a solution, that action should be applied in such a manner as to make for a solution of the basic difficulties in the wheat situation. This viewpoint was crystallized during the World Economic Conference and was placed before a conference of countries interested in wheat which met in London late in August. The result was the International Wheat Agreement.

Under this agreement, importing countries have agreed to take no further steps to increase domestic production of wheat and to commence to reduce restrictions against imports when the international price of wheat has reached a stated level. Importing countries further agree to promote the consumption of wheat in their respective countries.

The obligations of exporting countries are several. They agree in the first instance to limit the total volume of exports during 1933-34 in keeping with estimated import requirements. In other words, exporting countries agree not to ship more wheat than importing countries will need.

The four large exporters, Canada, the United States, the Argentine and Australia, further agree that they will limit exports during 1934-35 to an amount equal to the average yield on the average acreage sown in the three years from 1931 to 1933, less 15 per cent, less normal domestic requirements.

In the essence, the Wheat Agreement provides the machinery and terms by which exporting and importing countries may work along constructive lines in removing the basic weaknesses in the existing wheat situation. It prescribes adjustment on the part of both importing and exporting countries with a view to restoring normal markets for wheat.

The Outlook for 1933-34.—During the summer of 1933, the wheat situation developed in such a manner as to cause anxiety as to the outlook for 1933-34. In spite of the fact that North America had experienced a major crop disaster, bountiful production in Europe created

an immediate problem which was recognized by the Wheat Conference when it assembled in London late in August. At that time it was apparent that Europe would harvest a record crop in 1933. The exporting areas of the Danube basin reported a wheat production of 128 million bushels higher than in 1932 and indicated an exportable surplus of about 50 million bushels. France harvested a crop estimated at 339 million bushels as compared with 334 million bushels in 1932. For the second year in succession wheat production in France exceeded domestic requirements. Germany's wheat crop was estimated at 203 million bushels compared with 184 million bushels harvested in 1932. Italy also harvested a large crop. Wheat production in the United Kingdom amounted to about 62 million bushels as compared with 44 million bushels harvested in 1932. Increased production was evident in the Netherlands, Greece, and Switzerland. It was apparent that six of the eight major European importing countries had harvested larger crops in 1933 than in 1932. The net results of these large crops in Europe was a sharp reduction in prospective import demand for the crop year 1933-34. Mr. Broomhall, prior to the Conference, had estimated world import requirements for 1933-34 at 562 million bushels as compared with actual shipments of 615 million bushels in 1932-33. From the standpoint of exporting countries, the reduced import demand constituted grounds for anxiety and it was evident that any attempt to enter into ruthless competition for a limited market would have a further adverse effect upon price Also some European importing countries were experiencing difficulty in maintaining domestic price levels in the face of large crops. These important factors were considered by the London Conference.

The agreement provided that exporting countries should recognize the fact that world trade in wheat during 1933-34 would amount to 560 million bushels and that they would not press more wheat upon importing markets than could be absorbed under existing conditions. Export quotas were allocated to the chief exporting countries on the basis of estimated world demand for wheat during 1933-34.

Agricultural Wealth and Revenue

The preliminary estimate of the gross agricultural wealth of Canada, 1932, is \$5,069,930,000 as compared with \$5,696,972,000, the revised estimate for 1931. The gross value of the agricultural production was \$711,898,000 in 1932, a reduction of \$103,032,000 from 1931.

The tables on p. 68 give the agricultural wealth and production of Canada by provinces for 1932, and the agricultural revenue by items, 1927-32. Ontario had 27 p.c. of the total wealth, Saskatchewan 23 p.c., and Quebec about 18 p.c. in 1932.

An estimate of the net agricultural revenue of Canada is arrived at by a series of deductions from the gross field-crop revenue for such items as feed for farm animals and poultry, seed and unmerchantable grain and from the gross revenue from fruits and vegetables for vegetables produced on farms for home use. A preliminary estimate of the net agricultural revenue of Canada in 1932 is given as \$428,829,000, compared with a revised estimate of \$538,192,000 for 1931.

70800-53

Estimated Gross Agricultural Wealth of Canada, by Provinces. 1932
("000" omitted)

Province	Lands	Build- ings	Implements and Machinery	Live Stock	Poultry	Animals on Fur Farms	Agri- cultural Pro- duction	Total
P.E. Island. Nova Scotia New Brunswick. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia.	\$ 17,148 35,947 32,795 328,025 371,272 145,156 556,138 377.797 83,792 1,948,070	43,890 38,680 257,918 487,009 88,389 223,795 137,332 46,224	10,554 13,253 97,270 151,923 54,847 185,510 116,301 12,885	52,966 13,994	818 1,023 5,980 13,891 2,536 4,169 3,052 2,141	334 505 1,413 1,439 481 444 709 392	21,711 129,656 226,446 49,113 109,649 114,976 29,031	\$ 60,643 123,561 119,024 894,211 1,366,725 370,505 1,143,669 803,133 188,459 5,069,930

Gross Annual Agricultural Revenue of Canada, 1927-32

Item Field crops Farm animals Wool. Dairy products Fruits and vegetables Poultry and eggs Fur farming Maple products. Tobacco. Flax fibre. Clover and grass seed.	1927 \$ 1,173,133 183,927 4,108 294,874 46,027 97,937 4,798 4,935 9,112 321 3,841 2,937	197,880 5,099 293,045 48,756 106,653 6,106 5,583 6,834 509 2,957	\$ 948,981 207,317 4,470 291,743 46,398 107,664 6,791 6,119 6,276 393 2,123 2,849	\$ 662,041 166,630 2,311 269,844 49,417 95,227 4,925 5,251 7,058 371 2,482 2,584	\$ 432,199 96,775 1,644 161,244 39,692 65,178 3,557 3,538 7,178 179 1,497 2,246	1932 \$416,587 ¹ 69,033 1,093 131,623 30,388 48,824 2,732 2,747 6,088 170 962 1,651
Totals	1,825,950		1,631,124			711,898

1See bottom of page for footnote.

The preliminary estimate of the total value of field crops for 1933 is only slightly below that of 1932 (being \$427,791,000 as compared with \$444.894.900).1 With few exceptions, the unit prices for 1933 crops are higher than those received last year, and this factor has counteracted in great degree the decline in crop values due to lower yields per acre. At this date, it is estimated that the farm revenue for 1933 will not differ greatly from that of 1932. Cattle, calves and hogs have been marketed in greater volume than in 1932 and there has been little change in the marketings of sheep and lambs. Prices of hogs and sheep have been averaging well above those of last year with cattle prices lower. Dairy farming has not been prosperous but the winter production season promises to be more profitable. Butter production for the year will be slightly in excess of 1932 while cheese production will be lower. Sales of eggs and poultry are well up to 1932 levels. Wool production decreased slightly but the values will be sharply higher. Fruit production was higher and the minor crops were about as productive as in 1932. High and inelastic fixed charges continue to be burdensome to the farm population.

¹ The values of field crops for 1932 have been partially revised but the changes have not been made in the above tables.

Field Crops

Acreages.—According to the census of 1891, the area of field crops in 1890 amounted to 15.6 million acres. This grew to about 58 million acres in 1931, an increase of 272 p.c. during the forty-one years. Two main factors were responsible for this extensive growth in sown acreage, firstly the opening of the Prairie Provinces, and secondly, the Great War, for between 1913-19 alone the area under field crops increased about 50 p.c.

Wheat.—A remarkable growth in the production of wheat is indicated by the table on page 70 dating back to 1870. Prior to 1905 the amount of wheat produced was less than 100 million bushels. For six years it remained steadily over this figure until 231 million bushels was reached in 1911. In only three of the next twenty years was wheat production less than 200 million bushels, viz., 1914, '18 and '19. At that time the abnormally high 1915 crop of 393 million bushels set a record



The International Plowing Match, Central Experimental Farm, Ottawa, 1932. Inset—The Governor General strikes the first furrow.

Photos, Canadian Government Motion Picture Bureau.

for a number of years until 1922, when nearly 400 million bushels were produced. New high records were attained in 1923 (474 million bushels); in 1927 (480 million bushels); and in 1928 (567 million bushels). The years 1929 to 1931 were marked by less propitious climatic conditions for wheat growth, but an average crop was reaped in 1932. The 1933 crop is the lowest since 1924, amounting to only 271,821,000 bushels according to the provisional estimate.

Production, Imports and Exports, of Wheat for Canada, 1870-1933

Note.—(1) In the table below, wheat flour has been converted into bushels of wheat at the uniform average rate of $4\frac{1}{2}$ bushels to the barrel of 196 lb. of flour. (2) The exports and imports relate to the years ended June 30, 1871-1901, and July 31, 1911-33. They are not of course, yet available for the year ending July 31, 1934. (3) The saterisk (*) against the census years 1870 to 1920 indicates that the production figures for those years are from the reports of the decennial censuses.

Year	Production	Imports of Wheat and Flour	Exports of Wheat and Flour	Year	Production	Imports of Wheat and Flour	Exports of Wheat and Flour
*1870 *1880 *1890 *1900 *1910 *1921 1921 1922 1923 1924	32,350 42,223 55,572	bush. 4,304,405 965,767 406,222 314,653 407,639 454,749 372,942 397,519 440,741 619,404	bush. 3,127,503 4,502,449 3,443,744 14,773,908 62,398,113 166,315,443 185,769,683 279,364,981 346,566,561 192,721,772	1925 1926 1927 1928 1929 1930 1931 1932	566,726 304,520 420,672 321,325 428,514 1		bush. 324,592,024 292,880,996 332,963,283 407,564,186 186,267,210 258,637,886 207,029,555 264,304,327

¹ Subject to upward revision.

Other Grains.—These grains consist of oats, barley, flaxseed, rye, buckwheat, peas, mixed grain and corn. The first three have assumed real importance among the field crops of Canada. The volume of oat production has attained considerable dimensions, reaching the record total of close upon 564 million bushels in 1923, although the average for the years 1927-31 was 385 million bushels; the area under crop has expanded from 3,961,356 acres in 1890 to 13,528,900 acres in 1933. Barley, with a production of 11,496,000 bushels in 1870, yielded a record total of 136,391,400 bushels in 1928, while the yield for 1933 is now estimated at 63,737,000 bushels. Rye production amounted to 1,064,358 bushels in 1870, increased to 32,373,400 bushels in 1922, and receded to 4,725,000 bushels according to the second estimate of 1933.

Values of Field Crops.—Prices of agricultural products were at an unusually high level during the War and until 1919, then slumped steeply, falling to a low level in 1923, but recovered considerably in later years. The value of the field crops of Canada, which in 1910 was \$384,513,795, had increased by 1914 to \$638,580,000. As the effects of the War came to be felt, the maximum was reached in 1919 with a total of \$1,537,170,100. This value receded to \$899,226,200 in 1923; but the recovery of prices combined with excellent harvests, brought the value up to \$1,173,133,600 in 1927 and \$1,125,003,000 in 1928. Since then it has declined to \$948,981,000 in 1929, \$662,040,900 in 1930, \$432,199,400 in 1931, and \$444,894,900 in 1932. The estimate for 1933 itemized on p. 71 shows a further reduction to a total value of \$427,791,000. The preliminary figures for the 1933 crop

² Provisional estimate.

represent prices received up to the end of November. Naturally, revisions will be necessary in accordance with the trend of farm prices in the remainder of the marketing season. During the first weeks of December there have been seasonal increases in the prices of some minor products, but further sharp recessions in grain prices have much more than offset these improvements.

The Field Crops of Canada, 1933 (According to Provisional Estimates.)

Field Crop	Area	Total Yield	Total Value
	acres	bush.	e
Wheat	25,991,100	271.821.000	123,525,00
Oats	13,528,900	311,312,000	76,320,00
Barley	3,658,000		
Rye		63,737,000	16,544,00
Poor	583,100	4,725,000	1,599,00
Peas Beans.	84,600	1,405,000	1,398,00
	59 , 100	892,400	878,00
Buckwheat	398,300	8,664,000	4,309,00
Mixed grains	1,167,300	33,204,000	12,794.00
Flaxseed	243,600	678,500	759.00
Corn for husking	136,600	4,658,000	2,562,00
		cwt.	-,00=,00
Potatoes	527,700	41,542,000	32,464,00
Furnips, mangolds, etc	183,900	34,776,000	12,410.00
	100,000	tons	12,410,0
Hay and clover	8,875,900		04 000 0
Mfalfa		11,291,000	94,870,00
Todder corn	721,600	1,649,200	13,576,0
Todder corn	378,750	3,105,300	9,624,00
Grain hay	1,899,000	3,366,000	21,929,00
Sugar beets	42,100	419,000	2,230.0
			. ,

¹ Preliminary estimates.

The Flour-Milling Industry.—This most important manufacture connected with the field crops dates back to the settlement made by the French at Port Royal (now Annapolis, N.S.) in 1605. Milling was, of course, an absolute necessity to the first settlers. The Napoleonic wars established the export business and for the next half-century the mills were closely associated with the commercial and banking history of the country. Large scale production in milling in Canada began with the competition between the two processes, stone and roller milling. By the '80's the roller process had secured a virtual monopoly and local mills gave way to large mills served by elevators at central points. The high quality of Canadian wheat became recognized throughout the world, and Canada's huge export trade in wheat and its products developed. The milling industry grew apace.

In 1931, according to the preliminary estimate, there were 1,265 mills including 1,000 country mills; the capital invested was \$61,069,192; while the value of products was \$95,728,540. The exports of wheat flour in the fiscal year 1868-69 were 375,219 barrels valued at \$1,948,696. It was not until the fiscal year 1898 that Canada reached over the million mark, when 1,249,438 barrels were exported with a value of \$5,425,760. This was increased to 12,021,424 barrels, valued at \$61,896,251, during the crop year ended July 31, 1923-24, which was the peak year for the exports. The exports receded to 5,370,613 barrels in 1932-33, with a value of \$17,100,260. Canada normally ranks second among the world exporters of wheat flour, surpassed only by the United States.

Flour produced from the crop of 1931 made a new record for the flourmilling industry in Canada, for during the crop year ended July 31, 1932, wheat ground in commercial flour mills totalled 65,431,599 bushels and flour produced amounted to 14,631,504 barrels. Preliminary figures for the crop year ended July 31, 1933, were 66,265,288 bushels of wheat and 14,896,059 barrels of flour.

The total daily capacity of flour mills in 1932 was nearly 112,000 barrels. Canada has to-day the largest flour mill in the British Empire, with a daily capacity of 14,000 barrels, while her largest milling company controls a daily capacity of 24,500 barrels.

Special Crops



"Dauntless Derreen," the first generation White Leghorn pullet, bred by M. H. Ruttledge, Sardis, B.C., which, by laying 357 eggs in 365 days, has recently equalled the world record held by another British Columbia bird. Derreen's eggs averaged 24 ounces to the dozen, and her record is a tribute to many years of careful selection and breeding. Her breeding traces back to a hen that Mr. Ruttledge entered in the first Victoria Provincial Contest, 1911.

Photo, courtesy Superintendent Dominion Experimental Farm, Agassiz, B.C. A feature of Canadian agriculture is the number of crops which are grown in localities specially suited for their production. Some of the more important of these are tobacco, sugar beets, maple syrup and sugar, and flax and hemp for fibre.

The various types of tobacco are grown in different regions of Quebec and Ontario and in increasing amounts, having practically tripled since 1900. The production for 1932 was 54,094,000 pounds from 54,138 acres. About 49,000,000 pounds will be harvested in 1933. Prices remain very low.

The production of maple syrup and sugar in 1933 was valued at \$2,059,341, about two-thirds of which came from Quebec.

Sugar beets are grown in the neighbourhood of sugar beet factories at Chatham and Wallaceburg in Ontario and Raymond in Alberta, and there are other areas sown to this crop in Quebec and Manitoba. The production has made its most significant increase since the early war years. In 1931, the latest year for which factory statistics are available, the output of refined beetroot sugar amounted to 132,016,859 pounds valued at \$5,949,736. The production in 1933 is again high.

Flax for fibre and fibre-seed production expanded greatly during the War, but has since declined.

Hops occupy a relatively small acreage in British Columbia, the yield in 1932 being 791,159 pounds.

Commercial gardening is an important occupation in many favoured regions throughout Canada, principally in suburban areas.

Specialized poultry farming has increased in popularity in the past ten years, particularly in Ontario and British Columbia, and there has also been a large expansion in farm flocks. The effects of selective breeding are notable in improving quality of eggs and dressed poultry. Grading of marketed products is also receiving more attention.

The total estimated production of honey in Canada in 1932 was 20,628,934 pounds as compared with 29,666,097 pounds in 1931. The 1932

production was valued at \$1,651,175.

The production of clover, alsike, alfalfa and sweet clover seed amounted to 11,015,000 pounds valued at \$687,000 in 1932. The production of timothy seed in 1932 amounted to 4,100,000 pounds valued at \$225,000.



A Flock of Young Pekin Ducks, Central Experimental Farm, Ottawa.

Photo, Canadian Government Motion Picture Bureau.

The Live-Stock Industry

Although somewhat overshadowed by the grain-growing industry the raising of live stock has made very substantial progress not perhaps so much in point of numbers as in the improvement of foundation stock. Fortunately, virulent animal diseases, which affect the farm live stock of Europe, have never obtained a footing in Canada. Cattle which numbered 8,824,632 in 1929 had decreased to 7,991,000 by 1931 but in 1933 were 8,876,000. Swine after showing an increase of from 4,000,000 in 1930 to 4,716,720 in 1931, which was fairly well maintained in 1932, decreased to 3,800,700 in 1933. The number of sheep, which was 3,696,000 in 1930, decreased to 3,608,000 in 1931, increased to 3,644,500 in 1932 and decreased to 3,385,800 in 1933. The wool clip shows a substantial increase from

17.959.896 lb. in 1926 to 20.518,000 lb. in 1932, but owing to a marked falling-off in the average price of wool the value of the clip fell from \$4.140.000 in 1926 to \$1.093.800 in 1932. Poultry in Canada decreased from 65.468,000 in 1931 to 59.324.400 in 1933.

Slaughtering and Meat Packing.—Since 1900 the separation between the farm and the manufacture and marketing of animal products has become more and more pronounced, leading to the development of an important slaughtering and meat-packing industry. Returns for 1932 show



A Cattle Ranch in Alberta. Inset: Finished Western Cattle for Export.

Photos, Publicity Division Department of Trade and Commerce and
Canadian Government Motion Picture Bureau.

over the same period. The cost of materials used in 1932 was \$65,575,957, and the value of the products \$91,246,523. (See also p. 109.)

Exports of cattle during the first nine months of 1933 numbered 43,179 head valued at \$2.665,450, of which 36.415 head valued at \$2.343,979 went

to the United Kingdom and 3,734 head valued at \$228,465 to the United States; during the same period in 1932 exports of cattle numbered 29,589 head valued at \$1,941,432, of which 15,905 head went to the United Kingdom and 11,048 head to the United States. Exports of sheep during this period totalled 1,168 head as compared with 1,300 for the nine months of 1932, and exports of swine 5,128 head as compared with 4,708 in 1932.

Exports of bacon and hams showed a very encouraging increase for the nine-month period. In 1932 total shipments to all countries amounted to 291,896 cwt. and in 1933 to 529,274 cwt. with respective values of \$3,082,935 and \$5,793,211. In each case the greater portion was sent to the United Kingdom, the amount for 1933 being 515,277 cwt. valued at \$5,523,631. The total export value of all meats was \$7,508,437 for the nine months of 1933 as compared with \$5,119,308 in 1932.

Total exports of animals and animal products increased from \$42,130,156 in 1932 to \$46,548,945 in 1933. Of the latter amount goods to the value of \$26,282,917 went to the United Kingdom and \$12,926,585

to the United States.

Dairying

Dairying has long held an important place among Canadian industries. Cattle were introduced by the first settlers and there naturally followed the making of home-made butter and cheese, at first purely for home consumption, but later for export. The export market grew; during the fiscal year ended Mar. 31, 1926, Canada exported 1,483,000 cwt. of cheese valued at nearly \$34,000,000 and 233,000 cwt. of butter valued at nearly \$9,000,000. Since 1926 exports of these commodities have shown a falling-off, especially butter exports, which dropped from about 99,000 cwt. valued at \$3,352,000 in the fiscal year 1927 to 11,629 cwt. valued at \$389,149 for the fiscal year 1931; for the fiscal year ended 1932 exports of butter increased to 109,173 cwt. valued at \$2,362,888 and dropped again to 32,060 cwt. valued at \$589,537 for the fiscal year 1933. During the first nine months of 1933 exports of butter were 20,621 cwt. valued at \$381,995 as compared with 31,948 cwt. valued at \$586,519 for the first nine months of 1932. Cheese exports for the fiscal year ended 1932 were 854,247 cwt. valued at \$10,593,967 and, for 1933, 857,116 cwt. valued at \$8,758,415. For the first nine months of 1933 exports were 384,746 cwt. (\$4,210,939) compared with 556,560 cwt. (\$5,709,263) for the same months of 1932.

An analysis of production figures since 1916 indicates a general tendency toward increase in the manufacture of creamery butter. In 1916 the output was 82,563,130 pounds valued at \$26,966,355 which in 1924 had increased to 178,893,937 pounds valued at \$60,494,826. During the next five years the production was fairly steady, but in 1931 a new high record of 225.955,246 pounds was established; this fell in 1932 to 214,002,127 pounds. Low average prices prevailing in both years produced low total values of \$50.198,878 and \$40,475,479 respectively. During the first nine months of 1933 the production totalled 177,412,467 pounds, which, compared with 170,905,768 pounds for the same period in 1932, shows a percentage increase of 3.8.

Factory cheese reached its peak of production in 1917 when 194,904,336 pounds valued at \$41,180,623 were manufactured. In 1919 the total quantity produced was 166,421,871 pounds with a total value of \$44,586,168 which was the peak in values. During the next five years the production

fluctuated between 136 and 162 million pounds, and again in 1925 a high production of 177,139,113 pounds valued at \$36,571,556 was reached. In 1926 the production was 171,731,631 pounds valued at \$28,807,841, but since that time and particularly during 1929, 1930, 1931 and 1932 there has been a very marked falling-off in production with low valuations. Quantities and values for the four years respectively are as follows: 118,746,286 pounds and \$21,471,330; 119,105,203 pounds and \$18,089,870; 113,956,639 pounds and \$12,824,695; 120,524,243 pounds and \$11,379,922.

Value of the Dairy Production of Canada, by Provinces, 1931, with Dominion Totals for 1925-30

Province	Dairy Butter	Creamery Butter	Home- made Cheese	Factory Cheese	Miscel- laneous Factory Products	Milk Consumed Fresh or otherwise Used	All Products
Prince Ed. Island. Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia.	7,500,000 1,275,000 3,180,000 1,785,000	1,510,560 614,463 14,970,698 18,023,230 4,370,195 4,025,100 4,711,231	5,250 800 29,000 15,000 22,000 16,000 17,000	62,355 2,905,855 9,471,427 61,324 39,200 118,390	1,006,155 341,029 2,511,183 10,018,429 427,721 490,771 459,991	3,149,000 2,856,000 15,433,000 11,491,000 5,983,000 6,760,000 9,481,000	6,933,965 6,332,647 39,161,736 56,519,086 12,139,240 14,511,071 16,572,612
Canada— 1931. 1930. 1929. 1928. 1927. 1926. 1925.	23,844,000 28,929,000 29,103,000 30,435,121 28,252,777	50,198,878 56,670,504 65,929,782 64,702,538 65,709,986 61,753,390 63,008,097	112,040 82,800 82,000 70,654 80,240	18,089,870 21,471,330 30,494,463 25,522,148 28,807,841	21,305,045 22,091,945 20,581,490 18,879,335 17,767,271	149,823,000 153,238,000 152,661,856 154,257,346 140,643,460	161, 243,580 269,844,459 291,742,857 297,625,347 294,874,590 277,304,979 284,863,645

Fundamental changes have been going on in the industry and some of the milk that formerly went into cheese appears now to find its way into miscellaneous factory products. It will be observed from the above table that the total value of all products of the industry shows a fairly satisfactory trend over the six years 1925-30; the unusually low prices for all dairy produce prevailing during 1931 and 1932, have materially reduced the values for those years. This condition has extended into 1933.

The Fruit-Growing Industry

In certain sections of Canada, the climate and soil are eminently adapted to fruit growing, and the Annapolis valley, the Niagara peninsula and the Okanagan district of British Columbia are world famous centres of fruit production. Experimental shipments of apples from the Annapolis valley were first made in 1861. Up to 1890 the annual production of apples by Nova Scotia rarely exceeded 100,000 barrels; but after that date there was a pronounced increase in acreage and in production, which latter reached 1,000,000 barrels in 1909, and 1,900,000 barrels in 1911. Further high records were made in 1919 with over 2,000,000 barrels, and in 1922, when 1,891,850 barrels were packed and sold from the Annapolis valley and adjacent districts. In Ontario, where the commercial production of all varieties of fruit has reached its highest

development, apples have been grown from the middle of the eighteenth century, but commercial orcharding has developed only during the past 50 or 60 years, and was only possible when the building of the railways permitted trees and fruit to be rapidly transported. In British Columbia commercial fruit growing is of comparatively recent origin, growth in production having been particularly rapid since 1910. The first apple trees were planted about 1850, but not until after completion of the C.P.R. in 1886 were many trees planted for commercial purposes. In 1932 British Columbia produced over 4,000,000 boxes of apples.

In 1932 the total value of Canadian commercial fruits was \$10,222,707, including: apples, \$5,518,519; pears, \$339.135; plums and prunes, \$189.425;



Grading and Packing Peaches in the Niagara Peninsula, Ontario. Inset: Peaches boxed for export. (A) An incorrect pack. (B) Correctly packed. Photos, Canadian Government Motion Picture Bureau.

The 1933 apple crop developed under generally favourable conditions throughout Canada. A mid-season drought in Eastern Canada caused some anxiety but generous rains relieved the situation. N.S., N.B., Que. and Ont. all harvested larger apple crops than in 1932. Late season storms in the Maritimes and Ontario caused some damage to late varieties of apples. The season was generally favourable in British Columbia but the 1933 crop was slightly smaller than the crop of the previous year. Quality was well maintained in 1933 production.

CHAPTER VI

THE FOREST WEALTH OF CANADA— LUMBERING—PULP AND PAPER

The forests of Canada rank second only to agriculture, among the primary industries, in their contribution to the national production. It is estimated that forest products make up about 20 p.c. of all the freight hauled on Canadian railways. The large excess of exports over imports which the group "wood, wood products and paper" provides, amounting to \$100,397,554 for the fiscal year ended March, 1933, constitutes an influential factor in Canada's international trade.

Of the total forested area of 1,153,005 square miles, about 32.8 p.c. carries merchantable timber, and 35.8 p.c. carries young growth. The

remaining 31.4 p.c. is non-productive under present conditions.

The total volume of standing timber has been estimated at 267,733 million cubic feet capable of being converted into 448,255 million board feet of lumber and 1,528,767,000 cords of pulpwood, ties, poles and similar forest products. The eastern provinces are estimated to contain about 56·2 p.c., the Prairie Provinces about 15 p.c., and British Columbia about 29 p.c. of this total volume. The total annual drain on the forests including loss by fire, etc., is estimated at 4,102 million cubic feet, but it does not follow that our capital will be exhausted in the sixty-five years which a simple calculation might imply. The rate of utilization will no doubt be reduced as the supply diminishes and losses due to fires, wasteful utilization and other preventable causes are curtailed. An annual increment of 10 cubic feet per acre, which is quite possible under forest management, would provide in perpetuity for the needs of a population of over seventeen millions at our present annual rate of use, which amounts to about 416 cubic feet per capita.

Represented in the three great forest divisions of Canada are approximately 160 different species of plants reaching tree size. Only 31 of these species are coniferous, but the wood of these forms 80 p.c. of our standing

timber, and 95 p.c. of our sawn lumber.

Operations in the Woods

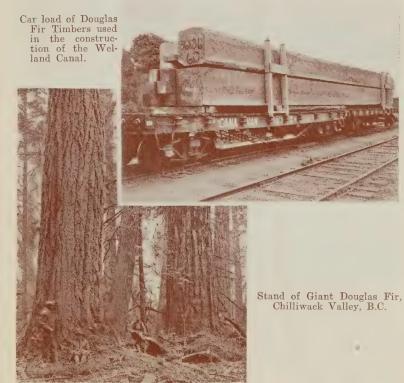
The value of forest production resulting from operations in the woods of Canada is, according to latest figures, \$141,000,000 annually, being made up of logs and bolts for sawmills valued at \$33,000,000; pulpwood for domestic use and export valued at \$44,000,000; firewood valued at \$44,000,000; hewn railway ties valued at \$4,000,000; poles valued at \$3,000,000; and other primary forest products, such as square timber, fence posts and rails, and wood for distillation. It has been estimated that this rate of total primary forest production involves the cutting of over 2,306,000,000 cubic feet of standing timber annually. In connection with operations in the woods, the forests not only provide the raw material for the sawmills, pulp-mills, wood distillation, charcoal, excelsior and other plants, but also logs, pulpwood and bolts for export in the unmanufactured state and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products which are finished in the woods ready

for use or exportation. There are also a number of minor forest products, such as maple sugar and syrup, balsam gum, resin, cascara, moss and tanbark, which all go to swell the total.

The following table gives the total values of the products of woods operations in Canada for the years 1927 to 1931 inclusive.

Value of the Products of Woods Operations, by Products, 1927-31

Product	1927	1928	1929	1930	1931
Logs and bolts Pulpwood. Firewood. Hewn railway ties. Square timber. Poles. Round mining timber. Fence posts Wood for distillation. Fence rails. Miscellaneous products Totals	70,284,895 40,582,774 6,242,865 2,865,906 3,948,723 965,185 1,281,633 482,277 431,057 3,584,368	\$ 76, 431, 481 74, 848, 077 41, 164, 270 5, 871, 724 3, 772, 137 4, 934, 371 998, 146 1, 506, 050 476, 726 463, 469 2, 484, 348 212, 950, 799	\$ 79, 278, 543 76, 120, 063 41, 764, 507 5, 730, 423 4, 179, 077 6, 677, 559 1, 028, 126 1, 674, 489 455, 957 477, 569 2, 183, 816	\$ 75,563,041 67,529,612 43,786,064 5,038,899 2,945,748 6,733,259 885,343 1,585,985 335,330 624,968 1,825,245 206,853,494	\$ 32,889,204 51,973,243 44,237,948 4,144,169 958,681 1,388,074 266,080 454,205 1,603,666



Photos, Canadian Government Motion Picture Bureau and Department of the Interior.

The Lumber Industry

Except in Nova Scotia, 90 p.c. of the forest land is still the property of the Crown—the lumbermen having been granted cutting rights only—

and is administered by the various provincial departments.

Canada's sawmills produced, in 1931, 2,497,553 M feet board measure of sawn lumber, valued at \$45,977,843. The greater part of this lumber is coniferous softwood, as the supply of the more valuable hardwoods such as hickory, oak and walnut (once plentiful in southern Ontario and Quebee) has been almost exhausted. The mills also produced 1,453,277 thousand shingles, valued at \$3,331,229; 228,050 thousand lath, valued at \$576,080; as well as numerous other products to the value of \$12,884,101, bringing the total value of the products of the industry up to \$62,769,253.

Markets for Canadian lumber now include practically all the more important countries of the world, having extended even into the Orient. There is also a considerable trade between British Columbia and the

Atlantic Coast States and provinces via the Panama Canal.



Log-jam on the Montreal River, Ontario.

Photo, courtesy Department of the Interior.

The following table gives the production of lumber and other sawmill products by provinces. British Columbia produced over 42 p.c. of the total value, Quebec 24 p.c., Ontario 20 p.c., followed by New Brunswick, Nova Scotia, Alberta, Manitoba, Saskatchewan and Prince Edward Island in the order named.

Production of Lumber and other Sawmill Products in Canada, by Provinces, 1931

Province	Lumber P	roduction	Other Sawmill Products	Total All Products
	Quantity	Value	Value	Value
	M ft. b.m.	\$	\$	\$
Prince Edward Island Nova Scotia. New Brunswick Quebec. Ontario. Manitoba Saskatchewan Alberta British Columbia Totals.	4,552 103,816 130,412 399,581 417,959 29,654 18,416 50,999 1,342,164	101,177 1,645,244 2,445,087 8,778,618 10,855,605 511,703 320,955 756,810 20,562,646 45,977,843	14,287 815,509 1,689,355 6,554,576 1,934,079 35,884 14,058 64,818 6,268,844 16,791,410	115,464 2,460,753 3,534,442 15,333,194 12,789,684 547,587 335,011 821,628 26,831,490

The Pulp and Paper Industry

The pulp and paper industry ranks first among Canadian manufacturing industries in gross and net value of products, as well as in total number of employees and wages and salaries paid. Its development has taken place for the most part during the present century, and is due chiefly to the existence in Canada of abundant water powers adjacent to extensive resources of the various pulpwood species.



A Diagrammatic View of a Magazine Pulp Grinder.

The gross output of the industry increased rapidly and steadily until the boom years following the Great War when it jumped to a peak of over \$232 millions in 1920. This was followed in 1921 by a drop which was general throughout the industrial field. From that year on there was a steady recovery resulting in a total for 1929 of \$243,970,761 followed by decreases to \$135,634,983 in 1932.

The following table gives the gross and net values of production for the industry as a whole for the six years 1927 to 1932.

	Gross	Net
The second secon		Production
1927	\$219,329,753	\$134,516,673
1928	233,077,236	144,586,815
1929	243,970,761	147,096,012
1930	215,674,246	133,681,991
1931	174,733,954	110,786,276
1932	135, 634, 983	86,673,512

The net value of production, which represents the difference between the values of raw materials and the finished products, is the best indication of the relative importance of a manufacturing industry. Regarded from this viewpoint the pulp and paper industry has headed the lists of manufacturing industries since 1920, when it replaced the sawmills. The industry has also headed the lists in wages' and salaries' distribution since 1922, when it replaced the sawmills in this respect, and it has been first in gross value of products since 1925, exceeding the gross value of flour-mill production.

There are three classes of mills in the industry. These, in 1932, comprised 28 mills making pulp only, 44 combined pulp and paper mills, and 26 mills making paper only.

Production of Wood Pulp in the Two Principal Provinces, and in Canada, 1925-32

Year	Quebec		On	tario	Canada	
1641	Quantity	Value	Quantity	Value	Quantity	Value
1925. 1926. 1927. 1928. 1929. 1929. 1930. 1931. 1932.	tons 1,370,303 1,672,339 1,749,965 2,018,566 2,174,805 1,833,000 1,513,658 1,240,442	\$ 50,490,231 59,218,576 60,884,169 67,467,328 69,286,498 58,703,067 41,884,387 31,124,954	1,007,118 1,050,335 1,255,010 1,043,559 958,100	\$ 33,559,038 38,008,752 35,034,468 35,708,079 39,963,767 31,463,873 22,944,943 18,735,105	3,229,791 3,278,978 3,608,045 4,021,229 3,619,345 3,167,960	\$ 100,216,383 115,154,198 114,442,556 121,184,214 129,033,154 112,355,872 84,780,819 64,412,453

In 1932 the 72 mills making pulp produced 2,663,248 tons valued at \$64,412,453, representing a decrease of 16 p.c. in quantity and 24 p.c. in value from 1931, and of this about 79 p.c. by quantity was made in combined mills and used by them in paper-making. About 4 p.c. was made for sale in Canada and 17 p.c. was made for export.

Of the total pulp production in Canada in 1932, 63.7 p.c. was ground wood, 19.3 p.c. unbleached sulphite, 9.6 p.c. bleached sulphite, 5.4 p.c. sulphate and soda and the remaining 2 p.c., screenings.

The total production of paper in 1932 was 2,290,790 tons, which, with certain unspecified products, was valued at \$114,101,824. Newsprint and similar paper made up 1,919,205 tons, or 83.8 p.c. of the total, valued at

\$85,539,852; paper boards made up 7 p.c., wrapping paper 3 p.c., book and writing paper less than 3 p.c., and miscellaneous papers the remainder. The Canadian production of paper increased three and three-quarter times in the period from 1917 to 1929, owing chiefly to the increase in the production of newsprint, although practically all the different kinds of paper that are used in Canada at the present time can be produced in Canadian mills.

Canada's newsprint production in the year 1932 was 89·5 p.c. greater than that of the United States, a few years ago the world's chief producer. In 1913 the production across the border was over three times as much as in Canada, but during the following 13 years, while production still increased in both countries, the gain in Canada was over 437 p.c. as compared to less than 30 p.c. in the United States. Since 1926 there has been an actual, as well as a relative, decrease in the United States production.

The latest monthly figures of Canadian newsprint production are:-

1933-		1933→	tons	1933	tons
January	140,539	May	171,776	September	179,416
February	125,610	June	171,419	October	191,452
March	137,078	July	180,387	November	193,718
April	147.759	August	194,262	December	

Trade.—A striking reflection of the increased production of newsprint between 1910 and 1931 is seen in the trade figures. The export trade in paper did not develop until the beginning of the present century. By 1910, however, the exports of newsprint paper were valued at over \$2,000,000; in 1920 they were valued at over \$53,000,000, whilst during the subnormal fiscal year 1932-33 Canada exported 1,662,985 tons of newsprint valued at \$74,136,863. This single item of export thus ranks at present second only to wheat. Canadian newsprint is exported to over thirty countries and our total exports are greater than those of the rest of the world combined.

During the earlier stages of industrial development the exports of the wood group were made up largely of unmanufactured products such as square timber and logs. At the time of Confederation these raw materials made up over 41 p.c. of the total export trade. To-day, while the wood and paper group forms a smaller part of the total (about 25 p.c. for the fiscal year 1932-33), its character has changed. Of the exports of products of forest origin, fully or chiefly manufactured goods now form 80 p.c. and unmanufactured or partly manufactured, 20 p.c. Raw materials form only about 8 p.c. of the total.

Industries Founded on Wood and Paper.—According to the latest available statistics there were, in 1931, 4,102 establishments, consisting of 1,954 depending on sawmills, and 2,148 depending on the paper-mills for their materials. They employed 72,642 workers who were paid over \$89,000,000 and their products were valued at more than \$155,000,000. The development of the paper-using industries in Canada has been greatly accelerated within recent years by the production of cheap paper and paper-board made of wood-pulp, composition roofing, fibre wallboard and many other products which have found a definite place in modern building construction.

CHAPTER VII

MINES AND MINERALS

Canada's mineral industry, second in importance in net value of production among the primary industries of the Dominion in 1931, being surpassed in output value only by the great basic industry of agriculture, brings to the nation a prestige beyond the monetary measure of the mineral output. First in nickel, first in asbestos, second in cobalt, gold and zinc, third in silver and copper, and fourth in lead among the world's producers, Canada enjoys an enviable position in the mining world with every prospect of future expansion. About one-third of the freight tonnages moved in Canada consist of ores or other mineral products.

Historical.—Though isolated discoveries had been frequent, systematic prospecting began only in the middle of the nineteenth century with the setting up of the Geological Survey of Canada under Sir William Logan, when the herculean task of exploring, mapping and geologically surveying Eastern Canada was begun. In 1863 a comprehensive "Geology of Canada" was issued. Thus, between 1843 and 1863, may be said to have occurred the real inauguration of the mining industry in Eastern Canada. Meanwhile the Fraser River and Cariboo gold rushes of the 'fifties had

founded the colony of British Columbia.

The completion of the C.P.R. in 1885 opened a second chapter of even greater significance. Vast new territories where the prospector showed the way to other enterprise were rendered accessible. The most important immediate find was made near Sudbury, Ont., in 1883, when in blasting a cutting for the railway a body of nickel-copper ore was uncovered which has since made the district world-famous. Other discoveries occurred later on in British Columbia, where during the 'nineties a remarkable succession of ore-bodies, especially auriferous copper and argentiferous lead-zinc deposits, was located in the southeastern section of the province. The famous Klondyke rush of 1898 must not be omitted in this cursory enumeration. As transportation facilities were extended, other ore deposits in different regions were found, the silver of the Cobalt district, discovered in 1903 during the construction of the Temiskaming and Northern Ontario Railway, and the extraordinarily rich gold finds at Porcupine (1909) and Kirkland Lake (1912) being notable examples. More recently, copper-gold and auriferous quartz discoveries in the Rouyn section of western Quebec led to the development of numerous mines and the con struction of the Horne Copper Corporation's smelter at Noranda, Quebec, where blister copper containing gold was first poured in December, 1927. Gold mines have since been opened up in the Red Lake, Matachewan and Michipicoten areas of Ontario, and gold, copper, zinc and other metalbearing deposits of commercial value have been found in Manitoba, where large concentrating and smelting plants have been erected and brought into operation. Since 1930, refineries for the production of electrolytic copper have been constructed and brought into operation at Copper Cliff, Ontario, and Montreal East, Quebec. In 1930, deposits of high grade silver-radium ores were discovered at Echo Bay, Great Bear Lake, N.W.T.

DEVELOPMENTS IN CANADIAN RADIUM PRODUCTION



The upper picture is a view of the location of the original discovery of radium ore at Labine Point, N.W.T. The picture at the lower left shows the pilot plant set up in the Mines Branch laboratories for the investigation of the treatment of Great Bear Lake pitchblende ores. After extensive experimentation, alternative methods for the commercial treatment of Canadian ores were formulated for the mining industry; these have been of the utmost importance in establishing radium production on a commercial scale in Canada. The two illustrations to the lower right are: (1) A photograph of native ore with light streaks of pitchblende; (2) A radiograph of the radio activity of the pitchblende.

Photos, courtesy Department of Mines and Department of National Defence,

The Modern Industry.—Since 1886, when comprehensive data were first collected for the mining industry as a whole, the advance has been truly remarkable. Valued at \$10,221,255 in 1886, or \$2.23 per capita, ten years later production had more than doubled. In another ten years, the aggregate had grown three and one-half times. This total again more than doubled by 1916. In 1932 Canada's mineral production was computed to be worth \$182,681,915. This represented a decrease of 20 p.c. below the value of the 1931 production and reflects only slightly the acute economic depression felt throughout the world since 1929.

In order of total values, the leading mineral products of Canada in 1932 were: gold, coal, copper, natural gas, nickel, cement, silver, lead, stone, sand and gravel, zinc, clay products, asbestos, petroleum, lime, salt, platinum and gypsum. This list of eighteen products includes all that reach an output value of \$1,000,000 or over; together they make up about 98 p.c. of the total recorded value of mineral production. In addition to these main products, some thirty other minerals were recovered in commercial quantities during the year. Canada's known mineral resources comprise almost every variety of mineral, many of the deposits being sufficiently extensive or rich to be of world importance. Canada produces about 90 p.c. of the world's output of nickel, 60 p.c. of its asbestos, nearly 35 p.c. of its cobalt, 13 p.c. of its gold, 10 p.c. of its lead, 11 p.c. of its silver, 16 p.c. of its zinc, and 10 p.c. of its copper. The 1932 output valuation of metallics revealed a decline from the high record established in 1929. Metals as a group, however, still retain the premier position in Canadian mineral production; this is due largely to important and increasing productions of gold, copper, lead and zinc.

The value of production of non-metallics increased from \$93.239.852 in 1928 to \$97,861,356 in 1929 but decreased to \$83,402,349 in 1930, \$65.346.284 in 1931 and \$56,788,179 in 1932. The sub-group fuels (mainly coal) showed a production valued at \$49,047,342 in 1932, about 86 p.c. of the group total. In 1928 the production of crude petroleum was 624,184 barrels valued at \$2,035,300; in 1932 it had risen to 1,044,412 barrels valued at \$3,022,592. The increase is almost entirely due to the greater production from Western Canada, especially the Turner valley and other areas in the outer foothills.

Clay products and other structural materials, including cement, stone, sand and gravel, and lime, showed an increase from \$49,737,181 in 1928 to \$58,534,834 in 1929; this was followed by a recession to \$53,727,465 in 1930, \$44,158,295 in 1931 and \$22,398,283 in 1932.

In 1929, for the first time in Canada's history, the mineral production rose above the three hundred million dollar mark and showed an increase of 13 p.c. over that of 1928—the former record year. The figures of values for 1932 established new records for gold and salt.

The mineral production of Canada for 1931 and 1932 is given, classified by groups and by provinces, in the following tables. From the second table it will be noticed that in 1932 Ontario produced 43 p.c. of the total, British Columbia was second with 15 p.c. and Quebec was third with 13 p.c. In 1931 British Columbia ranked third, being surpassed by the province of Quebec.

Mineral Production, Calendar Year 1932, and Official Estimate for Calendar Year 1933

	193	2	193	31
Item	Quantity	Value	Quantity	Value
W		\$		\$
METALLICS fine oz Silver fine oz Silver fine oz Nickel lb Copper lb Lead lb Zinc lb Other metals	3,044,387 18,347,907 30,327,968 247,679,070 255,947,378 172,283,558	62,933,063 5,811,081 7,179,862 15,294,058 5,409,704 4,144,454 2,723,231	2,945,070 15,360,764 84,586,300 300,978,523 269,040,791 199,591,600	60,879,998 5,773,712 20,735,534 21,645,751 6,450,414 6,412,180 2,484,084
Totals	-	103,495,453	-	124,381,673
Non-Metallics				
	11,738,913 23,420,174 1,044,412 3,248	37,117,695 8,899,462 3,022,592 7,593	22,918,600 1,126,100	35,511,772 8,731,180 3,070,000 2,040
Totals	-	49,047,342	- '	47,314,992
Other Non-Metallics Asbestos ton Feldspar ton Gypsum ton Mica ton Quartz ton Salt ton Sodium sulphate ton Sulphur 2 ton Talc and soapstone Other non-metallics	122,977 7,047 438,629 309 189,132 263,543 - 53,172	3,039,721 81,982 1,080,379 6,828 276,147 1,947.551 271,738 470,014 159,038 407,441	8,214 415,839 304 162,872 281,760 - 56,091	4,976,611 96,399 1,002,374 40,641 232,559 2,026,857 374,288 500,239 190,375 458,154
Totals	-	7,740,837	-	9,898,497
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products (brick, tile, sewer pipe, pottery, etc.)	4,498,721 320,650	3,650,218 6,930,721 2,394,537 9,422,807	2,982,722 342,621	2,236,000 4,552,345 2,569,659 7,300,000
Totals	-	22,398,285	-	16,658,004
Grand Totals Estimated exchange on gold produced	. =	182,681,91 8,546,31		198, 253, 166 23, 378, 455

¹Preliminary figures. ²In sulphuric acid made and in pyrites shipped.

Mineral Production of Canada, by Provinces 1930, 1931 and 1932

Nova Scotia. 27,019,367 9-65 21,080,746 9-24 16,198,573 total New Brunswick. 2,191,425 0-76 2,176,910 0-96 2,223,505 5 Quebec. 41,215,220 14-73 35,696,563 15-65 24,512,470 11 Ontario. 113,530,976 40-57 96,113,235 42-15 79,509,239 44 Manitoba. 5,453,182 1-95 9,965,854 4-37 8,714,459 437 Saskatchewan. 2,368,612 0-85 1,931,880 0-85 1,681,697 41 Alberta. 30,619,888 10-95 23,580,727 10-34 21,183,079 1 Rritish Columbia 54,953,320 19-64 35,337,756 15-50 26,767,522 1	Province	1930		1931		. 1932	
Totals 279 873 578 100.00 228.029.018 100.00 182.681,915 10	New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	2,191,425 41,215,220 113,530,976 5,453,12 2,368,612 30,619,888 54,953,320	total 9.65 0.76 14.73 40.57 1.95 0.85 10.95 19.64	2,176,910 35,696,563 96,113,235 9,965,854 1,931,880 23,580,727 35,337,756	total 9-24 0-96 15-65 42-15 4-37 0-85 10-34 15-50 0-94	2,223,505 24,512,470 79,509,239 8,714,459 1,681,697 21,183,079 26,767,522 1,891,371	p.c. of total 8. 1. 13. 43. 44. 0. 11. 14. 1.

Review of Conditions in 1933

Conditions in the mining industry generally, in 1933, were much more encouraging than in the previous year. Even the base metals, copper, lead and zinc, which encounter severe competition in world markets have shown substantial increases in production, and although clay products and other structural materials continue to reflect the continuing diminution of construction undertaken, the mining industry as a whole has made an excellent showing. There was unmistakeable evidence during the first half of 1933 that an upward trend in the demand for certain mine products had commenced. This was particularly emphasized in nickel sales, which recorded a steady gain in quantity during the year. Owing largely to efficient mining and milling methods, higher base metal prices and the relatively high gold content of some ores, copper production showed a considerable increase over the previous year.

Moderate increases in the production values for feldspar, mica and sodium sulphate during the early part of the year were significant in that they probably portend stimulated production in the ceramic, electrical and metallurgical industries.

The value of current production of new gold places Canadian gold mining in a position of premier importance in the mining industry of the Dominion. The severe and rapid decline in commodity prices during the past three years has not only benefited the established gold producer but has stimulated investigation as to the possibility of profitably operating on lower grade ores. The suspension of specie payments by Great Britain in September, 1931, and the United States in April, 1933, continued to react to the benefit of the Canadian gold miner. Exports of gold from Canada have been permitted only under licence since October, 1931, the Canadian Government purchasing the gold output of practically all mines. During the early part of 1933, shipments of gold were made principally to New York but, with the abandonment of the gold standard by the United States, London became the only recognized international market for gold and since that time exports of Canadian gold have been mainly to London.

In the province of Quebec the outstanding mining and metallurgical operations in 1933 were those conducted by Noranda Mines Ltd., at Rouyn. The company announced early in the year that the approximate monthly average production for 1933 would be 2,500 tons of copper and \$500,000 gold (basis of \$20.67 per ounce); no difficulties were being experienced in making copper sales. Both the mine and metallurgical plants of the company have been in continuous operation throughout the year. At Eustis, in the same province, the Consolidated Copper and Sulphur Company conducted mining operations and exported copper and sulphur-bearing concentrates to the United States. Prospecting and development of gold-bearing claims in northwestern Quebec were widespread. Some of the more prominent properties under exploration included Arntfield Gold Mines, Ltd., Canadian Pandora Gold Mines, Ltd., Lamaque Gold Mines Ltd., Sullivan Consolidated Gold Mines Ltd., and McWatters Gold Mines Ltd. Granada Gold Mines milled large bulk samples from different sections of the mine during the summer of 1933. Siscoe Gold Mines were in continuous operation throughout the year and a new vein was intersected at the sixth level, while in Cadillac township

the O'Brien-Cadillac was a consistent producer. One of the most note-worthy mining events in Quebec during 1933 was the completion and operation of a mill on the property of Beattie Gold Mines Ltd., in Duparquet township; gold-bearing concentrates from this mine are shipped for recovery of precious metals by smelter treatment. A new 100-ton gold mill was also completed and placed in operation during 1933 on the Green-Stabell mine in Dubisson township. Bussieres Mining Company was an active gold producer in Louvicourt township.

Due to an increase in demand for nickel, production of the International Nickel Company of Canada was stepped up to 40 p.c. of capacity during the first half of the year. The company's announced policy is to maintain adequate stocks of nickel and so far as is practicable to keep production on a par with consumption. Falconbridge Nickel Mines reported a successful year; in April the new concentrator and sintering plant of this company were connected up. Mines in both of Canada's largest gold camps, Porcupine and Kirkland Lake, worked at almost maximum capacity throughout the year, and the results of this activity were reflected in the well-being of the communities surrounding these properties.

Of the more recent mining developments in the newer fields of the province, probably those in the Swayze area are the most outstanding. Early in January shaft sinking was started on the Kenty gold mine located in Swayze township; extensive underground work was completed and the property systematically explored. In the Matachewan area the Ashley mine was in steady production, and in the same general area the interesting and extensive exploration of large low grade gold deposits was witnessed. In the Red Lake district, Howey Gold Mines brought its new milling unit into operation and it was reported that 1,400 tons of ore per day were to be hoisted. In October, 1933, construction was completed on a new 200-ton mill at the Macassa mine in the Kirkland Lake camp. Near Bourkes Station in Maisonville township the Lakeland Gold Mines installed a 150-ton mill and in addition conducted extensive underground development. During the summer of 1933 construction of a gold mill was commenced at the property of Central Patricia mines in the district of Patricia; it is expected this will be in operation early in 1934.

Mining and smelting operations of the Hudson Bay Mining and Smelting Company, Ltd., at Flin Flon, Manitoba, were continuous during 1933. These are amongst the largest of their kind in Canada and constitute a distinct asset in the industrial life of the Dominion. San Antonio and Central Manitoba gold mines conducted mining and milling operations in eastern Manitoba throughout 1933. In this same district a new mill was placed in operation in September at the Oro-Grande gold mine. In the northeastern part of the province important and encouraging results were reported to have been obtained on gold-bearing properties located at God's and Island lakes. It was announced in May, 1933, that the McLeod River Mining Co. had resumed gold dredging in northern Alberta,

One of the more important events in the British Columbia mining industry during 1933 was the resumption of operations at the Monarch mine, Field, by the Base Metals Corp. Ltd. Lead and zinc concentrates were shipped by this company to Europe via Vancouver; in June, 1933, it was reported that the Bralorne gold mill in the Bridge River area had been stepped up to 130 tons. Pioneer Mines, also operating in the same

area was in continuous production during 1933. In the Cariboo mining division, the new mill of the Cariboo Gold Quartz Mining Company was operated successfully; ore was reported to average \$18.30 per ton in the early part of the year. Reno Gold Mines Ltd., operating a property near Salmo, conducted important development work and produced bullion in the reconstructed Motherlode mill. At Kimberley, the Consolidated Mining and Smelting Co. Ltd. operated the famous Sullivan mine throughout the year; concentrates produced from ores mined in this mine were treated in the metallurgical plants of the company at Tadanac. Mining and smelting of copper ores were conducted at Anyox by the Granby Consolidated Mining and Smelting Co. Ltd.; blister copper produced by this company was exported to the United States. At the annual meeting of the Premier Gold Mining Company it was announced that the monthly rate of about 13,000 tons was to be maintained and that the mine's life was limited to from 1½ to 2 years. Copper, sulphur and zinc concentrates were produced by the Britannia Mining and Smelting Company Ltd., at Britannia Beach; these were largely exported. Prospecting in British Columbia was widespread in 1933 and considerable placer gold was recovered.

At Great Bear lake, Northwest Territories, exploration and development of the uranium-radium-silver deposits in the Echo Bay area were continued on a more extensive scale than in 1932. Eldorado Gold Mines Ltd., operating in this section, erected a concentrator at the mine and it was reported in July that this company was now making shipments of refined uranium and radium products from its refinery at Port Hope, Ontario; silver-radium ores continued to be shipped out of the Great Bear Lake area during 1933.

Mining operations in Yukon were principally confined to the dredging of auriferous gravels and the mining of silver-lead ores by the Treadwell Yukon Company. No production has been reported by this company since March.

An analysis of the statistics comprising the estimate of the mineral production of Canada for 1933 reveals an increase of 8.5 p.c. in the total value of mineral products over that for 1932. The figures also reflect much more encouraging conditions in the Canadian mining industry than those experienced throughout the previous year. Metals as a group showed an increase of 20 p.c. in value; increases in both quantities and values were recorded for nickel, copper, lead and zinc, and, while the quantities of gold and silver were somewhat less than for the preceding year, the value of the gold output, estimated in Canadian funds at over \$84,000,000, was the highest in the history of the Canadian gold-mining industry. Of the major non-metallic sub-divisions, slightly downward trends were indicated for fuels and structural materials. Among fuels, coal and natural gas outputs were somewhat off from 1932 but there was, however, an increase of 8 p.c. in the production of crude petroleum. Smaller tonnages of clay products, cement, stone, and sand and gravel are in line with the low level of the construction industries. An increased output of lime appears to be the result of expansion in the chemical industries, while increases recorded for asbestos, feldspar, mica, salt, sodium sulphate, and various other nonmetallic minerals indicate the widening scope of general industrial recovery.

CHAPTER VIII

THE WATER POWERS OF CANADA

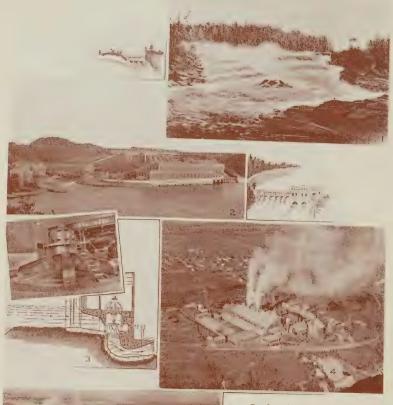
Water power is one of Canada's greatest natural resources and, unlike other resources, is not depleted with use. On Jan. 1, 1934, there was a total installation of hydraulic turbines and water wheels of 7,332,070 h.p. compared with a total installation of 7,045,260 h.p. on Jan. 1, 1933. Fortunately, the greater part of both the potential and developed power is located in the central provinces of Quebec and Ontario which are largely industrial and without coal resources. The Jan. 1, 1933, figure of 7,045,260 h.p. was exceeded only by one other country, viz., the United States with 15,818,000 h.p. for 1932, but on a per capita basis Canada had an average of 0.69 h.p. as against 0.127 h.p. in the United States. Norway, with about the same average installation per capita as Canada has a smaller total development.

The table below shows the hydraulic turbine installation as at Jan. 1, 1934, and also the estimated potential power by provinces. These estimates include only rivers where the flows and heads have been measured; they are based on continuous power available twenty-four hours each day at 80 p.c. efficiency, i.e., 80 p.c. of the theoretical power. The two estimates shown are: first, power available throughout the year based on the minimum flow or flow during the dry periods; and second, the maximum available for six months. Because power is seldom required continuously 24 hours each day to the full capacity of the generating equipment, water can generally be stored during the hours of light demand and used during the hours of heavy demand. Consequently, whenever feasible, power plants are equipped with generating machinery having a capacity much greater than the theoretical continuous power of the waterfall.

Available and Developed Water Power in Canada, by Provinces, January 1, 1934

	Availabl Power a Effic	Turbine		
Province	At Ordinary Minimum Flow	At Ordinary Six Months' Flow	Installation	
	h.p.	h.p.	h.p.	
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia. Yukon and Northwest Territories.	3,000 20,800 68,600 5,330,000 3,300,000 542,000 390,000 1,931,000 294,000	5,300 128,300 169,100 13,064,000 6,940,000 5,344,500 1,082,000 1,049,500 5,103,500 731,000	2,439 112,167 133,681 3,493,320 2,355,105 390,925 42,035 71,597 717,602 13,199	
Totals	20,347,400	33,617,200	7,332,070	

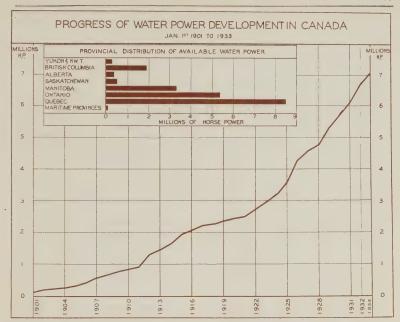
HYDRO-ELECTRIC DEVELOPMENT AT SHAWINIGAN FALLS



Quebec is easily the foremost province as regards hydro-electric power. In available waterpower resources, she almost equals Ontario and Manitoba (the second and third ranking provinces) together, and in developed water power she has as much turbine installation as Ontario, British Columbia and Manitoba taken together.

Shawinigan Falls is an ideal example of a progressive urban community centred entirely about the hydroelectric industry. Its position, in close proximity to the forest lands of Quebec, has made it the power centre of industries associated with wood and paper established in the neighbourhood; a huge chemical industry has also been developed; the latest addition to the industrial structure of the city has been the establishment of a plant for the manufacture of "cellophane"—a transparent wrapping material manufactured from wood cellulose, which is rapidly increasing in popularity.

The St. Maurice river is outstanding among the water courses of Quebec in regard to hydro-electric power developments. Including the 160,000 h.p. now being pushed to completion at P pide Blanc, half of which is scheduled to



It has been estimated that under ordinary conditions there is sufficient potential power in the rivers of Canada (including a half of the international waters) to drive hydraulic turbines totalling 43,700,000 h.p. Although the most favourably located sites have been developed, there are still great quantities of undeveloped power within feasible transmission distances from industrial centres. The very magnitude of some of these, as on the St. Lawrence river, has delayed their utilization, but after negotiations extending over nearly a year, the Governments of the United States and Canada, in August, 1932, consummated an agreement directed to the development of the St. Lawrence Seaway, apportioning costs as between the different authorities concerned, and defining a plan of construction to be followed out. (See p. 120.)

be ready in April and half in August, there is a total installation of 855,285 h.p. on the river—nearly one quarter of the total installation of Quebec province. In addition, the upper reaches of the river provide a vast reserve of power, which may be developed as required. There is one greater hydro-electric plant in Quebec than any on the St. Maurice, viz., the Ile Maligne plant on the Saguenay which boasts an installation of 495,000 h.p., but as yet even the great Saguenay, or that part of the greater St. Lawrence which flows through Quebec, have not the aggregate installations of the St. Maurice, including the Rapide Blanc project.

The illustration shows: (1) View of the lower part of Shawinigan falls, on the St. Maurice river, from a painting made in the '90's before the waters were harnessed and put to work. (2) Power houses at Shawinigan Falls. (3) A 43,000 h.p. unit and a diagram of the relationship between the generator and the turbine. (4) The Carbide Division of the large chemical industry which has been firmly established at Shawinigan Falls. This is a branch of industrial chemistry which requires an abundance of cheap electric power. (5) An aeroplane view of the present city of Shawinigan Falls.

(5) An aeropiane view of the present city of Shawingan Pans.

Photos, courtesy the Shawinigan Water and Power Company, Montreal.

No new water-power undertakings of magnitude were initiated during 1933. However, work was continued on several developments already under construction at the beginning of the year, and, as a result new installations were completed and brought into operation totalling 270,210 h.p. This addition, together with 16,600 h.p. in new installations completed in 1932 but not previously included in the total for that year, brings the total for the Dominion at the end of 1933 to the figure already stated.

The increase in installation resulted chiefly from the completion of the Masson development of the Maclaren-Quebec Power Company on the Lièvre river in Quebec and the bringing into operation of the initial installation of the Canyon development on the Abitibi river in Ontario by the Hydro-Electric Commission. Other smaller installations were completed in British Columbia.

Central Electric Stations.—The use of electricity is so common in Canada that it is difficult to conceive of using any other means of lighting the homes, stores, factories and streets in urban municipalities and the service is being extended rapidly to rural areas. Electricity is also rapidly supplanting steam as a source of power in factories, quarries and mines, even coal mines. In 1932 there were 362 commercial organizations and 464 municipalities distributing electric energy to 1,357,462 domestic service customers, 248,487 commercial light customers and 29,535 power customers, and to 1,920 municipalities for street lighting. The total capital invested in the industry for all classes of plant was \$1,335,886,987 and ranked higher than that in any other Canadian manufacturing industry. The average was \$209 per h.p. of all primary equipment. Only 62 p.c. of this, however, was for generating equipment, dams, etc., the remainder being for transmission lines, distribution plant and offices. The net revenue for 1932 amounted to \$121,212,679 and averaged only 0.75 cent per k.w.h. produced. The consumer, of course, paid more than this, as he paid for all line and transformer losses, but rates are much lower in Canada than in most other countries. Whereas the average cost per k.w.h. for all domestic uses, i.e., lighting houses, cooking, etc., in the United States was 5.58 cents in 1932, in Canada the cost was less than half this and in Ottawa averaged less than 1 cent per k.w.h. for a monthly consumption of 300 k.w.h. and still less for higher consumptions. The average monthly output of the large central electric stations in Canada, 1926-33, is shown below. Only in 1929 and 1930 did the output exceed the 1933 figure.

Average Monthly Output, Central Electric Stations in Canada, 1926-33 (Thousands of kilowatt hours)

From From Year Total Water Fuel 991,041 16,746 18,944 1,007,787 1,193,481 1,340,292 1,441,203 1,463,330 1,339,907 1,212,425 21,192 27,622 25,230 1,361,376 1,468,825 1,488,560 1931.... 26,071 1,365,978 296,360 25,845 1933 (ten months' average)..... 1,389,405 24,880 1,414,285

CHAPTER IX

THE FISHERIES OF CANADA

The Canadian Fishing Grounds.—Canada's extensive fishing grounds border the Atlantic and the Pacific and also include an unrivalled inland fresh-water system of lakes and rivers. On the Atlantic, from Grand Manan to Labrador, the coast line, not including lesser bays and indentations, measures over 5,000 miles. The bay of Fundy, 8,000 square miles in extent, the gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles, or over four-fifths of the fishing area of the North Atlantic. In addition, there are 15,000 square miles of Atlantic inshore waters controlled entirely by the Dominion. Large as are these areas they represent only a part of the fishing grounds of Canada. The Pacific coast of the Dominion measures 7,180 miles in length and is exceptionally well sheltered, while throughout the interior is a series of lakes which together contain more than half of the fresh water on the planet, Canada's share of the Great Lakes alone amounting to over 34,000 square miles—a total which does not include lake Winnipeg (9.398 square miles), lake Manitoba and others of even greater area.

Still more important than the extent of the Canadian fishing grounds is the quality of their product. Food fish improve in proportion to the purity and coldness of the waters in which they are taken and, by this standard, the Canadian cod, halibut, herring, mackerel, whitefish and salmon are the peers of any in the world. By far the most valuable fisheries of the western hemisphere, if not of the globe, belong to Canada.

The Modern Industry.—The present fishing industry of Canada is the growth of the past 60 years. In 1836 the production of fish in what are now the Maritime Provinces had an estimated value of \$1,500,000, while that of Lower Canada was about \$1,000,000. In 1870 total production was worth \$6,500,000 and was again more than doubled by 1878. In the '90's it passed \$20,000,000 and in 1912, \$34,000,000. In 1931 the value was \$30,500,000, and in 1932, \$25,957,109, the decrease shown in the values of the past two years, being due to the world-wide depression, which has forced prices down and has affected all classes of industry. The totals given represent the total value of fish marketed, whether in a fresh, dried, canned or otherwise prepared state.

The tables following show the production of the industry by provinces for the years 1900, 1914 and 1932, and the production by principal kinds for the years 1931 and 1932.

The fisheries also employ considerable capital and labour. In the primary operations of catching the fish the total capital represented by vessels, boats, nets, traps, weirs, wharves, etc., was \$24,771,066 in 1932, of which \$20,430,845 was invested in the sea fisheries and over \$4,340,221 in the inland fisheries. Employees in these primary operations numbered 64,505. In the secondary operations of fish-canning and curing the establishments numbered 629, the capital invested was \$17,043,212 and the employees numbered 13,724 for 1932.

Growth of the Fisheries by Provinces, 1900, 1914 and 1932

Province	Value of Production		Per cent from each Province			
	1900	1914	1932	1900	1914	1932
	\$	\$	\$	p.c.	p.c.	p.c.
Prince Edward Island Nova Scotia Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia Yukon	1,333,294 455,749	1,261,666 7,730,191 4,940,083 1,924,430 2,755,291 849,422 132,017 86,720 11,515,086 69,725	988,919 6,557,943 2,972,682 1,815,544 2,147,990 1,204,892 186,174 153,789 9,909,116 20,060	4.9 36.2 17.5 9.2 6.2 2.1 } 1.2{ 22.7	4·1 24·7 15·8 6·2 8·8 2·7 0·4 0·3 36·8 0·2	3.8 25.3 11.5 6.9 8.3 4.6 0.7 0.6 38.2 0.1
Totals	21,557,639	31,264,631	25,957,109	100.0	100.0	100-0

Fisheries Production by Principal Kinds, 1931 and 1932

(Each over \$1,000,000 in value and arranged by value in 1932)

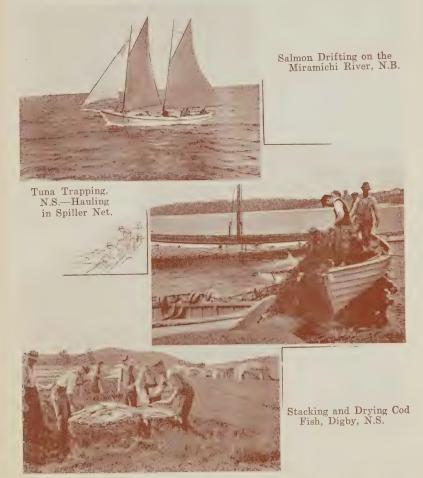
	1931		1932	
	Quantity Caught	Value Marketed	Quantity Caught	Value Marketed
	ewt.	\$	ewt.	8
Salmon Lobsters Cod. Herring Halibut Whitefish Haddock	1,343,701 435,490 1,463,626 2,462,751 210,926 156,215 363,850	7,972,017 5.037,028 2,827,350 2,330,044 1,780,044 1,425,311 1,362,876	1,331,054 483,488 1,428,941 1,862,372 193,845 138,478 360,125	8,037,904 4,745,311 2,193,621 1,473,288 1,227,680 1,193,634 1,114,802

Trade.—Although the domestic consumption of fish in Canada is increasing, the trade still depends largely upon foreign markets. Perhaps 60 p.c. of the annual catch is an average export. In the calendar year 1932, total exports amounted to \$18,752,107, of which \$8,650,853 went to the United States and \$4,220,655 to the United Kingdom. The most important single export is canned salmon (to the United Kingdom and European markets), followed closely by cod, dry-salted (to the West Indies, South America, etc.). For fresh fish, especially whitefish and lobsters, the United States is the chief market. In brief, Canada's export trade in fish falls below that of the United Kingdom and Norway alone. Canadian imports of fish and fish products including fish oils, etc., in 1932 amounted to \$1,862,337, of which about 30 p.c. came from the United States; 36 p.c. of the imports were canned fish, chiefly sardines.

The expansion described above was featured by numerous changes in conditions. In early days the cod and haddock of the Atlantic were the most important items of the catch; to-day British Columbia, with her enormous salmon and halibut fisheries, takes the lead among the provinces (a leadership that in earlier times belonged to Nova Scotia), accounting for nearly half of the catch. The lobster fishery of Eastern Canada has

also become vastly more important, until it is now the largest fishery of the kind in the world. But the greatest element of change has been contributed by improvements in the methods of catching and preparing the fish, and especially by the development of the fish-canning industry. In

THE ATLANTIC COAST FISHERIES



Photos, Canadian Government Motion Picture Bureau.

1870 there were but three lobster canneries on the Atlantic coast of Canada; in 1932 these canneries numbered 357, employing nearly 7,000 people; 30,000,000 lobsters is a normal catch. The salmon canneries of the Pacific are all large ones and numbered 44 in 1932. The salmon pack of the

province in that year amounted to 1,081,011 cases of 48 lb. each, an output nearly double that of the previous year, but still a little below the average yearly production.

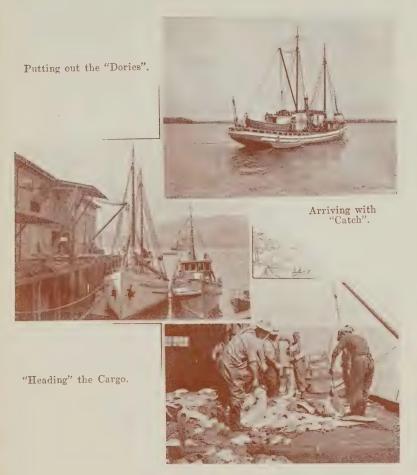
Materials Used and Values of Products of Fish-Canning and -Curing Establishments, 1930-32

Material and Product	1930	1931	1932	
	\$	\$	\$	
Material used— Fish. Salt. Containers. Other. Totals.	15,939,137 348,201 4,569,026 225,125 21,081,489	9,137,505 351,781 2,220,770 210,778 11,920,834	7,708,713 170,385 2,190,935 193,598 10,263,631	
Product— Fish marketed for consumption, fresh Fish canned, cured or otherwise prepared	7,639,557 25,333,751	5,168,401 13,658,492	4,243,614 12,440,511	
Totals	32,973,308	18,826,893	16,684,125	

Game Fish.—The foregoing is a purely industrial and commercial survey. Fishing for sport, however, has its economic side in a country of such famous game fish as the salmon of the Restigouche and other rivers of the Maritime Provinces; the black bass and speckled trout of the Quebec and Ontario highlands, the red trout of the Nipigon and the salmon and rainbow trout of British Columbia. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundreds of guides find employment in this field during the summer months.

The Government and the Fisheries.—The Dominion Department of Fisheries (first established on a separate basis in 1930) controls the tidal waters of the Maritime Provinces and British Columbia, and the fisheries of the Magdalen islands in Quebec province. The non-tidal fisheries of the Maritime Provinces, Ontario and the Prairie Provinces, and both the tidal and non-tidal fisheries of Quebec (except the Magdalen islands) are controlled by the respective provinces, but the right of fisheries legislation for all provinces rests with the Dominion Parliament. A large staff of inspectors, officers and guardians is employed to enforce the fishery laws, and a fleet of vessels patrols the coastal and inland waters to prevent poaching and to assist in the carrying out of the regulations. The main object of legislation has been the prevention of depletion, the enforcement of close seasons, the forbidding of pollutions and obstructions, and the regulation of nets, gear, and of fishing operations generally. The Government has also taken steps from time to time in the field of direct assistance to the industry, including fish collection services on the Atlantic coast; the broadcasting by radio of reports of weather probabilities, bait and ice supplies, ice conditions along the coast, and prevailing local market prices; the payment of bounties (under the Washington Treaty); and instruction in improved methods of curing fish. In addition an extensive system of fish culture has been organized, the Dominion operating, in 1932, 23 main hatcheries, 10 subsidiary hatcheries, and 8 salmon retaining ponds, while stations for the conduct of biological research into the numerous complex problems furnished by the fisheries are established at Halifax, N.S., St. Andrews, N.B., and Nanaimo and Prince Rupert, B.C. The expenditure of the Dominion on the fisheries in the fiscal year ended 1932 was \$1,786,912.

HALIBUT FISHING ON THE PACIFIC COAST



Photos, Canadian Government Motion Picture Bureau.

The fisheries of Canada have more than held their relative place among the industries in recent years, and there is now a wider realization than ever before of the value of the fisheries resources in our national economy. The convention held in Quebec in September, 1932, by the Canadian Fisheries Association showed the close organization of the different branches of the industry, the solid basis attained, and the Dominion-wide spirit displayed by the various interests representing the industry from coast to coast.

CHAPTER X

THE FUR TRADE

The Modern Industry.—Although the rapid advance of settlement has greatly restricted the reservoir of fur-bearing animal life cradled in the vast expanses of Northern Canada, yet, after nearly three and a half centuries of exploitation, Canada still holds a foremost place in the ranks of the world's fur-producing countries.

Raw furs are at present the only economic return from hundreds of thousands of square miles of the area of the Dominion and are a resource

in which all the provinces and territories have a share.

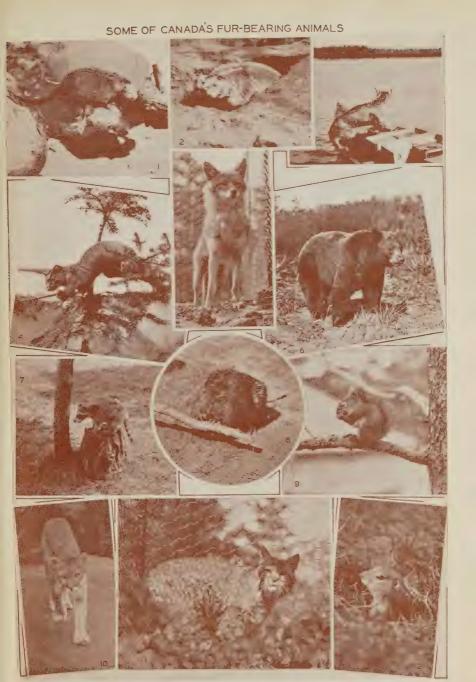
Commencing with the year 1881, records of the value of raw fur production were obtained in the decennial censuses, but from 1920 the Dominion Bureau of Statistics has issued annual reports, prepared from statements furnished by the Provincial Game Departments, which are based on returns of licensed fur traders. In 1881 the value of pelts taken was \$987,555; by 1910 it had become \$1,927,550; the figures for the seasons ended June 30, 1921-32 are given below. The values given are the market values of the pelts taken by trappers and those sold from fur farms. The proportion of the latter has risen from about 3.5 p.c. of the total value for earlier years of the decade to 13 p.c. in 1928-29, 19 p.c. in 1929-30, 26 p.c. in 1930-31, and 30 p.c. in 1931-32, thus indicating the growing importance of fur farming (see pp. 102-3).

Numbers and Values of Pelts Taken, Seasons 1920-21 to 1931-32

Season	Number of Pelts Taken	Total Value	Season	Number of Pelts Taken	Total Value
1920-21 1921-22 1922-23 1923-24 1924-25 1925-26	2,936,407 4,366,790 4,963,996 4,207,593 3,820,326 3,686,148	\$ 10,151,594 17,438,867 16,761,567 15,643,817 15,441,564 15,072,244	1926-27 1927-28 1928-29 1928-30 1930-31 1931-32	4,289,233 3,601,153 5,150,328 3,798,444 4,060,356 4,449,289	\$ 18,864,126 18,758,177 18,745,473 12,158,376 11,803,217 10,189,481

In order of value in 1931-32, silver fox with \$3,089,818, or 30 p.c. of the total, took first place, supplanting muskrat, which has been Canada's chief fur producer during the last decade, although beaver was supreme in earlier days. Muskrat pelts, valued at \$1,403,993 compared with \$2,143,148 last year, ranged second, white fox being third with a production valued at \$1,373,809. Mink, beaver, ermine (weasel), red fox and patch or cross fox were next in the order given.

If all fox pelts (silver, patch, white, blue and red) are grouped together, the combined value reached \$5,225,652, 51 p.c. of the total for all furs. All furs were sold at lower average prices than for several years; silver fox, for example, dropped from \$46.48 per pelt in 1931 to \$28.74 in 1932, white fox from \$23.23 to \$20.38, mink from \$9.32 to \$7.47 and beaver from \$14.77 to \$11.56. Although values were less than in 1930-31, the numbers



Raw furs are still the only economic return from vast areas of the Dominion. Every province and territory shares substantially in the valuable annual catch. (1) Muskrat; (2) Badger; (3) Lynx; (4) Marten; (5) Coyote; (6) Black Bear; (7) Raccoon; (8) Beaver; (9) Squirrel; (10) Mountain Lion; (11) Bob Cat; (12) Gopher.

Photos, courtesy National Parks of Canada, Dept. of the Interior.

of most of the principal kinds show increases. All of the different kinds of fox pelts, excepting white, increased in number, and larger numbers are also recorded for beaver, ermine, lynx, mink, raccoon and skunk.

Canadian manufactures of fur goods, including the dressing and dyeing of raw furs, have shown a rapid growth in recent years, the gross production having increased from about \$5,000,000 in 1920 to \$15,818,733 in 1931, the latest year for which statistics of manufactures are available. In the latter year there were 279 establishments employed in the industry and wages and salaries paid out amounted to \$4,260,161. The cost of raw materials, largely raw furs, amounted to \$8,856,762 and thus the net value of \$6,961,971 was added in the process of manufacture.

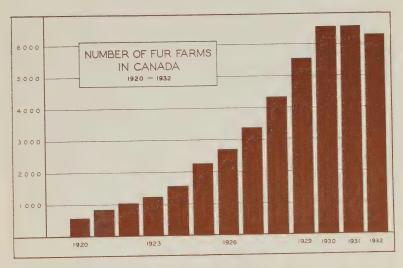
Accompanying the growth of manufactures has been a stimulation of the import trade in raw furs, including the pelts of many animals not taken in Canada, but also including Canadian varieties which have found their way to the main world markets through the auction sales. For the 12 months ended June 30, 1924, imports of raw furs were \$7,505,328, and by 1929 they had risen to \$13,289,043. The imports for the 12 months ended June, 1930 (\$7,518.885), June, 1931 (\$5,455,483) and June, 1932, (\$2,709,285) reflected the conditions existing after Oct., 1929, to an abnormal degree—not entirely an unexpected circumstance in the case of a commodity so characteristically in the luxury class.

Export Trade.—Prior to the War, London and Leipzig held the positions of outstanding fur markets of the world, but during 1914-18 St. Louis captured the supremacy for the United States although, since the War, London has regained her former prestige. A result of the changed situation thus brought about has been that Montreal, Winnipeg and, to a lesser extent, Edmonton have become important fur marts for buyers from the larger world centres. Montreal held the first fur auction sale to take place in Canada in 1920. Auctions are now held quarterly at Montreal, and regular sales are also held at Winnipeg and Edmonton.

A century ago the value of furs exported exceeded that of any other Canadian product; the total output is not seriously declining, but exports for the year 1932 were only about 2·1 p.c. of our total exports of Canadian merchandise, owing to the rapid growth of other branches of our external trade. The trend of export values over the past ten years was definitely upward until 1929, although the trend of prices generally was downward. Since 1929 exports have fallen from a value of \$24,565,000 to \$12,218,000 in 1932 without materially changing the percentage to total exports. Of the total export values of furs in 1932, 53·4 p.c. went to the United Kingdom and 35·7 p.c. to the United States.

Fur Farming.—In the early days of the fur trade it was the practice for trappers to keep foxes caught in warm weather alive until the fur was prime; from this has arisen the modern industry of fur farming. The industry is devoted chiefly to the raising of the silver fox, a colour phase of the common red fox established through experience in breeding. But although the fox is of chief importance, other kinds of fur-bearers are being successfully raised in captivity among which are mink, raccoon, skunk, marten, fisher, coyote and badger. Again, within the past few years extensive areas of marsh land have been profitably utilized for the raising of muskrats, and this branch of the industry is expanding rapidly. The

number of fur farms in Canada in 1931 was 6,541, compared with 6,524 in 1930 and 5,513 in 1929. During the five-year period 1927-31 the number increased by 94 p.c. Fox, mink and raccoon farms are the chief kinds numbering 5,201, 795 and 294 respectively.



The total number of fur-bearing animals born on fur farms in 1931, exclusive of muskrat and beaver, was 165,378, compared with 138,808 in 1930, and the number which died from various causes was 32,256, compared with 24,040 the previous year. For muskrat and beaver no exact data can be supplied. The numbers of pelts sold were 133,248, valued at \$3,071,460 in 1931, and 77,656 valued at \$3,096,270 in 1930. The total number of all kinds of animals sold from farms in 1931 was 9.623, valued at \$492,000, and for 1930, 24,500 valued at \$1,828,545. Silver fox in 1931 contributed 73 p.c. of the total and the highest price received during the year for a silver fox was \$800, the same figure as in the previous year.

Advance statistics for the year 1932 indicate an increase in the number of fox farms to 5,221, but a decrease in the number of miscellaneous fur-bearing animal farms to 1,075. A reduction, to 7,216 valued at \$2243,193, is noted in the number of live fur-bearing animals sold, but an increase, to 135,718 valued at \$3,046,627, in the number of pelts disposed of by the fur farms. Average prices were slightly lower in 1932 than in 1931 for all kinds of live animals and for pelts. The total number of furbearing animals on the farms at the end of the year 1932 was 256,205, valued at \$6,754,762, an increase in number compared with the preceding year of 2 p.c., but a decrease in value of 21 p.c.

In spite of the rapid growth of the industry there are no signs that fur farming is overdone. Canada is regarded abroad as the best source of silver foxes for breeding and large numbers have been exported at good prices to the United States and Europe. The quality of the pelt does not appear to have suffered in captivity and there are many breeders who maintain that finer skins are derivable from farms than were ever secured from the open spaces.

CHAPTER XI

THE MANUFACTURES OF CANADA

The present century has witnessed the chief forward movement in Canadian manufactures, mainly as the result of two great influences: firstly, the "boom" accompanying the opening up of the West, which greatly increased the demand for manufactured goods of all kinds and especially construction materials; and secondly, the War, which not only created enormous new demands but left a permanent imprint upon the variety and efficiency of Canadian plants. In 1910, when the first of these influences was but partly felt, the gross value of Canadian manufacturing production had risen to \$1,166,000,000, the capital invested to \$1,248,000,000, and the number of employees to 515,000; but by 1920, the gross value of Canadian manufactured products was no less than \$3,772,000,000, the capital invested \$3,372,000,000, and the number of employees 609,586. Hundreds of millions of capital had been attracted from outside (see p. 49) in achieving this striking result. After 1920 the figures declined, but subsequent gains brought them back for 1929 to even higher levels than 1920, as the accompanying table shows. As expected, the 1931 figures when compared with those for 1929 indicate a reduced gross production of 33 p.c., although the net production, due to the proportionately greater reduction in the cost of materials, was down only 26 p.c.

INDUSTRIAL TEXTILES

Section of a Carpet Manufacturing Plant in Toronto, Ont.



Printed Calico coming from a Dryer—Magog, Que.

Historical Summar	of Statistics	of Manufactures,	1870-1931
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Year	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ³	Gross Value of Products
1870 1880 1890 1900 1 1910 1 1920 2 1929 2 1930 2 1931 2	No. 41,259 49,722 75,964 14,650 19,218 23,351 23,597 24,020 24,501	165,302,623 353,213,000 446,916,487	369,595 339,173 515,203 609,586 694,434 644,439	59,429,002 100,415,350 113,249,350 241,008,416 732,120,585 813,049,842 736,092,766	179,918,593 250,759,292 266,527,858 601,509,018 2,085,271,649 2,032,020,975 1,666,983,902	129,757,475 219,088,594 214,525,517 564,466,621 1,686,978,408 1,997,350,365 1,761,986,726	469,847,886

1 Includes all establishments employing five hands or over.

3 Gross value less cost of materials.

According to the latest census available, Canada possessed, in 1931, 24,501 manufacturing establishments with capital investment in lands, buildings, equipment, etc., amounting to \$4,961,312,408, employing 557,426 persons with salaries and wages amounting to \$624,545,561. They consumed \$1,223,880,011 worth of raw materials (not including fuel) and produced goods to the value of \$2,698,461,862. Owing to the prevailing conditions, it is estimated that the value of production in 1932 will be about 20 p.c. lower than in the previous year.

Census of Manufactures, by Provinces and Industrial Groups, 1931

Province or Group	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
Province	No.	\$	No.	\$	\$	\$	\$
P.E.I. N.S. N.B. Quebec. Ontario. Manitoba. Sask. Alberta. B.C. and	10,140 955 768 886	129,824,727 128,859,472 1,662,811,076 2,285,361,451 191,935,311 68,547,866 107,427,603	16,175 13,107 180,808 269,739 24,193 6,061 11,798	809, 122 14, 881, 673 12, 706, 897 187, 362, 564 313, 676, 300 30, 706, 209 7, 546, 703 14, 213, 753 42, 642, 340	33,288,250 25,631,856 369,044,132 597,879,792 55,149,392 22,540,618 36,090,169	21,724,533 32,277,242	70, 679, 503 55, 209, 818 849, 154, 353 1,312,400,828 118, 540, 865 44, 265, 151 68, 367, 411
Yukon	1,636						2,698,461,862
Canada	24,501	4,961,312,408	337,420	024,040,001	1,220,000,011	1,111,001,001	2,000,101,002
Industrial Group Vegetable Animal Textiles. Wood and paper Iron, etc Non-ferrous metalls Non-metallics.	5,283 4,430 1,955 7,767 1,243 455 1,272	217,441,415 352,344,073 1,053,064,435 676,270,362 318,395,983	51,297 105,473 121,672 96,927 34,414	51,270,503 92,504,088 140,349,106 120,759,931 46,111,373	214,743,508 153,191,375 192,379,915 170,754,686 95,342,788 78,945,766	106,059,948 163,967,295 291,858,015 203,970,382 116,519,624 102,486,140	320,803,456 317,158,670 484,237,930 374,725,068 211,862,412 181,431,906
Chemicals Miscellaneous	621	163,863,072	15,207	20,867,948			
Central electric stations		1,229,988,951				122,310,730	122,310,730

¹ Gross value less cost of materials.

² Includes all establishments irrespective of the number of employees but excludes Construction, and Custom and Repair Work.

The great development in Canadian manufactures since the War has been stimulated by the fact that foreign firms have realized the splendid field which Canada furnishes for the establishment of branch factories and have invested large amounts of capital in varied enterprises which have provided employment for Canadian labour. There is every reason to think that this movement will be further encouraged as a result of the Imperial Conference of 1930.

The classification of industries followed in the latter part of the table on page 105 indicates the important position of the Animal Products group in Canadian industry. Space does not permit of the treatment of all these groups, but this and iron and its products are selected for treatment this year.



The Meat-Packing Industry.—Dressing hogs in a Toronto meat-packing plant.

Animal Products.—Production in this group is determined, in large measure, by the demand at home and abroad for Canadian butter, cheese, canned fish, fresh or frozen meats, bacon and hams, condensed and evaporated milk, etc.

The leading industry of the group is that of slaughtering and meat packing, with a value of production in 1931 of \$117,596,697. Next comes butter and cheese, with a value of \$95,728,398. These two industries produced about two-thirds of the production of the entire group.

The butter and cheese industry, which manufactures a product of farm animals, has been for many years of leading importance in Canada. Originating in the agricultural districts of the Maritime Provinces, the Eastern Townships of Quebec, and the southern counties of Ontario, it is now developing rapidly in the Prairie Provinces and in the more northern

settlements of Quebec and Ontario. For an industry so large in the aggregate, it is unique in having shown very little tendency toward consolidation in large units, the gross production of \$95,728,398 coming from no fewer than 2,676 plants, mostly small and scattered at convenient points throughout the farming communities.



Photos, Canadian Government Motion Picture Bureau.

The leather industries have long been established on a considerable scale, mainly, of course, because the large number of cattle raised and slaughtered provides a ready supply of hides. There are large tanneries in the eastern provinces, and no fewer than 184 boot and shoe factories were in operation in 1931, chiefly in Quebec and Ontario, representing a total capital of nearly \$26,000,000 with an annual output of nearly \$37,000,000 and employing 14,150 men and women. The canning and preserving of fish also calls for reference. Concentrated naturally upon the Pacific and Atlantic coasts, 662 establishments were engaged in 1931 in canning, curing and packing of various kinds of fish that were valued at nearly \$19,000,000.

The industries of this group manufacturing food products have shown decreased production during the years since 1926 and the group as a whole has not kept pace with the other groups in the volume of production. This has been more especially true of the slaughtering and meat-packing, butter and cheese and fish-curing and packing industries. On the other hand, the industries where the manufacturing process plays a greater part, such as those making wearing apparel and boots and shoes, have recorded substantial increases since 1926, although along with all industries they have, generally speaking, felt the effects of the present depression.

Iron and Its Products.—The manufacture of iron and steel and their products is also one of Canada's basic industries. Iron ore is not now produced in Canada, as the known deposits, though extensive, are not of sufficiently high grade to permit economic recovery under present conditions. Yet there has been built up a primary steel industry of considerable importance, and the secondary or fabricating industries have been expanding steadily to meet the country's increasing requirements.

There are now four concerns which make pig iron in Canada, one being in Nova Scotia and three in Ontario. The former uses Nova Scotia coal and iron ore from the great Wabana deposits which it controls, on Bell island, Newfoundland, while the Ontario works are dependent on foreign ore and coal, which are brought from the United States. These companies have blast furnaces with a rated capacity of 1,500,000 tons of pig iron per annum, but the highest tonnage yet attained was 1,080,160 long tons in 1929. Open hearth steel furnaces and rolling-mills are also operated by these companies, which produce steel ingots, blooms and billets, bars, rods, rails, structural shapes, plates, sheets, rail fastenings, etc.

Among the secondary industries, the production and maintenance of railway cars, locomotives and parts is of first importance. In 1931 there were 38 plants for this purpose, and 21,773 workers were employed. The value of products was \$67,865,070, which was \$37,000,000 lower than in 1930.

Automobile manufacturing is one of Canada's largest industries with 9,545 employees, products valued at \$59,674,345 and a capital investment of \$59,638,057 in 1931. This was not a representative year and the figures are hardly indicative of the real importance of the industry. In 1929, for instance, 16,435 people were employed in 17 plants then in operation and cars and parts worth \$177,315,593 were produced for the home and export markets.

The export trade in automobiles and parts reached its peak in 1929, when cars and parts worth \$47,005,671 were shipped to other countries. For 1931 this market had declined to \$6,621,510.

There are also numerous works for the manufacture of machinery, agricultural implements, sheet metal products, foundry products and similar articles of iron and steel, and the variety of products made in these establishments is increasing yearly.

The important place which the wood and paper group of industries occupies is dealt with in Chapter VI.

Leading Individual Industries, 1931.—Compared with 1930, there have been a few marked changes in the order of the ten leading industries when arranged according to the gross value of production; this in addition to the fact that there has been an appreciable decrease in the value of production in every case. In 1931 pulp and paper was again in the lead, followed by central electric stations, slaughtering and meat-packing, non-ferrous metal smelting, flour and feed mills, etc. Some of the more important changes in the ranking of the leading industries were as follows: non-ferrous metal smelting advanced from tenth to fourth place, central electric stations from fourth to second place and petroleum products from eleventh to eighth place, while railway rolling stock dropped from seventh to tenth place, flour and feed mills from third to fifth

place and slaughtering and meat-packing from second to third place. Butter and cheese did not change at all, remaining in sixth place in both years.

Principal Statistics of Twenty-five Leading Industries, 1931

Industry	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products ¹
	No.	\$	No.	\$	\$	\$
Pulp and paperCentral electric stations		7630,176,540 1,229,988,951		34,792,013 26,306,956		174,733,954 122,310,730
Slaughtering and meat- packing. Non-ferrous metal smelting. Flour and feed mills. Butter and cheese	147 14 1,265 2,676	61,069,192	7,860 5,671	11,626,678 13,245,327 6,032,189 12,259,926		98,565,755 95,728,540
Electrical apparatus and supplies Petroleum products	163 32	100,057,945 68,136,281		22,474,319 6,214,745		
Tobacco, cigars and cigar- ettes	105 38 764	97,484,985	21,773	8,096,769 28,111,765 26,375,663		67,865,070
Bread and other bakery products. Sawmills. Automobiles. Clothing, factory, women's. Rubber goods, including	3,562 26 471		22,361 9,545	18,862,604 16,409,674 13,113,192 15,018,195	37,379,034 36,476,355	62,769,253 59,674,345
footwear	333 333			11,708,387 19,203,234		52,691,230 51,455,296
colate, etc	282 80 161	63,140,211 57,173,774	4,679	6,601,528 13,948,570 3,307,730	13,289,689 22,052,418 29,196,494	49,055,739 47,757,703 43,962,061
Cotton yarn and cloth	34 157 53 184	74,023,179 52,352,956 104,512,104	7,988 8,026	9,265,806 11,072,054	20,230,852 15,291,414	39,039,005 36,911,245
Totals, Twenty-five Leading Industries	14,629	3,478,978,221	326,435	369,642,275	823,920,604	1,762,214,563
Grand Totals, All Industries	24,501	4,961,312,408	557,426	624,545,561	1,223,880,011	2,698,461,862
Percentages of Twenty-five Leading Industries to All Industries	59-71	70.12	58.55	59 · 19	67.33	65.30
						C

¹ Net value of production can be obtained by deducting cost of materials from these figures.

On the basis of net value, or value added by manufacture, the order of importance of the industries in 1931 was very different from that based on gross value. The central electric stations industry was foremost in this respect and was followed in the order named by pulp and paper, tobacco, cigars and cigarettes, printing and publishing, non-ferrous metal smelting, electrical apparatus and supplies. In salaries and wages paid, the pulp and paper industry also ranked first and was followed in the order given by railway rolling stock, printing and publishing, central electric stations, electrical apparatus and supplies.

The leading centres of manufactures are Montreal and Toronto with totals of \$438,000,000 and \$427,000,000 in 1931, respectively. After these come Hamilton with \$125,000,000, Winnipeg with \$74,000,000 and Vancouver with \$73,000,000. There are eight other places having manufactures

with a gross production of \$25,000,000 and over in 1931.

Leading	Manufacturing	Cities of	Canada,	1931
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City or Town	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	\$	No.	. \$	\$	\$
Montreal Toronto Hamilton Winnipeg Vancouver London Kitchener Quebee Oshawa Ottawa Three Rivers Calgary Walkerville Sarnia Peterboro Montreal East Shawinigan Falls Edmonton Brantford East Windsor Regina.	1,992 2,443 450 543 681 239 1411 257 46 207 58 155 60 49 89 89 97 7 25 159 99 121	469, 455, 443 518, 626, 003 209, 615, 031 129, 849, 693 126, 641, 532 43, 893, 929 36, 370, 676 65, 216, 126 24, 743, 933 55, 561, 883 71, 155, 671 35, 831, 172 33, 811, 763 34, 282, 649 23, 948, 733 40, 308, 766 128, 912, 906 23, 212, 331 44, 358, 378 21, 830, 739 21, 830, 739 21, 830, 739 21, 830, 739 21, 830, 739 21, 830, 739		102,368,420 115,043,020 31,657,029 22,292,946 17,094,786 9,941,698 7,913,904 8,729,876 5,823,135 9,459,420 5,509,596 5,448,894 5,509,596 4,763,385 4,40,168 4,763,385 5,238,051 4,216,660 5,127,350 5,885,738 5,460,924	194, 793, 369 195, 476, 790 50, 201, 527 32, 005, 602 33, 270, 166 14, 515, 456 13, 997, 210 13, 066, 535 15, 464, 622 11, 166, 087 15, 807, 725 15, 668, 045 16, 601, 343 11, 274, 261 9, 427, 476 3, 895, 379 10, 136, 097 10, 136, 097 18, 141, 098	426,583,692 125,164,616 73,723,211

Trade in Manufactures.—Canada is the second most important manufacturing country in the British Empire. The capacity of Canadian industries and the variety of products marketed are such that many classes of goods, formerly imported, are now being manufactured in the Dominion in sufficient volume not only to meet the requirements of the home market but also for export. To-day Canada sends manufactured goods to almost every country in the world. For the fiscal year ended Mar. 31, 1932, these exports reached \$350,000,000 in value, whereas in 1900 they were below the \$100,000,000 mark and fourteen years later were but \$159,000,000.

Among the industrial groups, the vegetable products group occupies an important position in trade. Wheat flour, rubber tires, canvas shoes with rubber soles, prepared cereal foods, sugar and alcoholic beverages are some of the more important articles which enter into the export trade of Canada.

The exports of socks and stockings has been steadily increasing in both the volume and value, and reached a new high level in 1930 when 84,833 dozen pairs, valued at \$907,761 were exported. This, however, dropped to 76,075 dozen pairs, valued at \$695,041 in 1931. New Zealand and British South Africa are our best customers, importing, in 1931, 37,698 dozen pairs, valued at \$318,044 and 19,732 dozen pairs, valued at \$204,450 respectively.

Conditions During the Years 1929-33.—Perhaps the best all-round barometer of conditions is afforded by the indexes of employment maintained from month to month in the Dominion Bureau of Statistics, and based on returns received from establishments having 15 hands and over. These reporting establishments normally employ about 600,000 work-people.

The severity of the depression which set in toward the end of 1929 is strikingly illustrated by the monthly employment indexes shown below. From a high of 121 6 attained in August, 1929, employment kept steadily

decreasing until January, 1933, when the index stood at 74.4. In February of the same year, however, employment took an upward swing and each month to September recorded a higher figure of employment than the preceding month. By then, the index had climbed to 86.8 an increase in employment of 16.7 p.c. in a short period of only seven months. Since September the recession has been very slight.



Rubber Goods Manufacturing—Processing inner tubes in a Canadian auto-tire factory.

Photo, courtesy Department of the Interior.

Practically all industries classified in the manufacturing group were affected by the general inactivity of business; in the important lumber, and iron and steel divisions, the losses were especially severe, while employment in food, textile, tobacco and beverage, electric current and electrical apparatus factories was maintained at a level generally above the average for the manufacturing group.

Indexes of Employment in Manufactures (1926=100)

	(2010)										
Month	1929	1930	1931	1932	1933	Month	1929	1930	1931	1932	1933
Jan. 1 Feb. 1	107·8 112·8				75.0	Aug. 1	121 - 6		97·2 94·7		
April 1	116.5	111.3	99.7	87.3	76.0	Sept. 1 Oct. 1	120.2	108·2 107·8	91.8	84-1	86 ·
May 1 June 1									88 · 8 89 · 6		83.

CHAPTER XII

CONSTRUCTION

The construction industry, as here understood, embraces construction in transportation and public utilities as well as the more widespread municipal and private building operations with their almost complete dependence on local demand and with their progress more sensitive to the state of the money market and the cyclical fluctuations of general business conditions.

Transportation and Public Utilities.—Railway expenditures for maintenance of way and structures were substantially reduced in 1932, amounting to about \$50,000,000 for steam railways and \$2,800,000 for electric railways. Capital investments in new lines were \$3,546,357, less a credit of \$269,730 for additions and betterments for steam railways in 1932, making a total of \$3,276,627 as compared with \$65,154,351 for 1931, and \$102,000,000 for 1930. For electric railways the expenditures on road and equipment during 1932 amounted to only \$332,027 exclusive of credits for railways which ceased operation during the year.

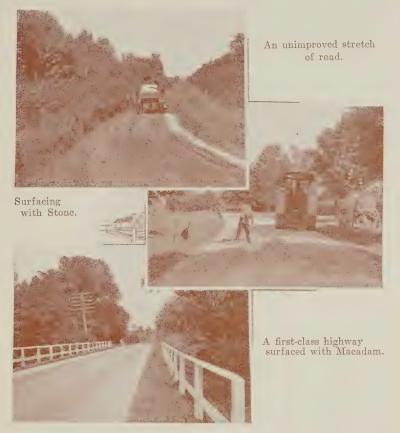
The good roads program of the Dominion and Provincial Governments, undertaken largely since the War, has been another large item of expenditure. The increased use of motor vehicles for passenger and freight movement has been the primary cause of the greatly increased expenditures in recent years. During 1932 the expenditures on provincial highways and on local roads receiving subsidies from Provincial Governments amounted to \$66,250,000 for construction and \$22,287,000 for maintenance, or a total of \$88,537,000 compared with a total of \$88,000,000 in 1931. (See p. 121.)

Construction Contracts Awarded in Canada, eleven months, 1932 and 1933

(MacLean Building Reports, Ltd.)

Type of Construction		1932		1933
Type of Constitution	No.	Value	No.	Value
		\$		\$
A partments Residences Totals, Residential Churches Public Garages Hospitals Hotels and Clubs Office Buildings Public Buildings Stores Theatres Warehouses, Totals, Business Totals, Industrial Bridges	8,339 8,447 150 371 63 126 119 314 193 881 36 213 2,466	1,507,500 26,192,700 27,700,200 2,726,800 2,863,800 3,979,400 1,388,600 8,023,300 6,735,900 4,644,900 4,448,500 38,644,900 7,710,900	116 8,005 8,121 148 395 49 152 164 285 187 935 49 263 2,627 424	896,100 21,895,400 22,791,500 2,7024,700 1,798,800 1,233,300 1,007,800 2,601,000 5,360,600 3,411,300 5,607,000 25,515,607,000 25,515,607,000 25,749,000
Dams and Wharves Sewers and Watermains. Roads and Streets. General Engineering. Totals, Engineering.	117 547	2,176,600 10,516,200 19,419,200 15,184,700 54,626,300	161 56 315 599 314 1,445	6,247,000 561,500 4,512,900 13,690,800 7,214,000 32,226,200
Grand Totals	13,837	128,682,300	12,617	89,082,200

ROAD CONSTRUCTION



Road construction and repairing has been one means of easing the unemployment situation during recent years. A large proportion of the money so spent goes for labour costs and has been of direct benefit to many who otherwise would have been unemployed.

Photos, Canadian Government Motion Picture Bureau.

Building Operations.—The foregoing transportation and public utility expenditures have helped to make a better showing for the industry as a whole, and still more have road work and other Government programs which tend to increase as other construction work decreases. The greater part of the expenditures on construction are for building operations proper, i.e., for houses, factories, business premises, etc. In view of the widespread nature of the undertakings, comprehensive figures are not easy to obtain, but the totals of construction contracts awarded, as compiled by MacLean Building Reports, Ltd., for the latest four complete years, are as follows: 1929, \$576,651,800; 1930, \$456,999,600; 1931, \$315.482,000; 1922,

70800-8

\$132,872,400. The table on page 112 shows the values of such contracts for the first eleven months of the latest two years, by types of construction.

The Dominion Bureau of Statistics compiles an estimate of the value of construction in 61 cities of Canada as indicated by their building permits. In 1932 the value of buildings thus authorized was \$42,319,397, as compared with \$112,222,845 in 1931 and \$166,379,325 in 1930. For the first eleven months of 1933 the unrevised total is \$19,653,928. The following table shows the value of the building authorized for the first eleven months of 1933 as compared with those in the same period of 1932 by the 61 cities whose returns are tabulated monthly.

Building Permits, by Cities, eleven months, 1932 and 1933

City	1932	19332	City	1932	19332
	\$	S		\$	\$
Charlottetown, P.E.I	1	189,400	Sarnia, Ont	61.518	61,332
Halifax, N.S	884,994	589,969	Sault Ste. Marie, Ont.	140,249	89,737
New Glasgow, N.S	35,195	21,420	Toronto, Ont	6,114,198	3,595,284
Sydney, N.S	140,344	30,925	York and East York		
Fredericton, N.B	18,500	30,115	Townships, Ont	1,588,983	626,706
Moncton, N.B	155,630	117,494	Welland, Ont	65,925	46,236
Saint John, N.B	423,056	164,646	Windsor, Ont	846,102	58.945
Montreal-Maison-			East Windsor, Ont	43,949	1,807
neuve, Que	10,345,833	5,101,647	Riverside, Ont	2,525	1,000
Quebec	1,167,430	468,018	Sandwich, Ont	12,050	550
Shawinigan Falls, Que.	24,910	52,950	Walkerville, Ont	18,000	3,000
Sherbrooke, Que	227,100	181,400	Woodstock, Ont	84,720	69,539
Three Rivers, Que	107,575	27,988	Brandon, Man	31,274	44,346
Westmount, Que	254,970	334,841	St. Boniface, Man	118,845	62,310
Belleville, Ont	98,055	34,075	Winnipeg, Man	2,116,400	723,400
Brantford, Ont	168,689	139,856	Moose Jaw, Sask	357,105	44,845
Chatham, Ont	53,415	75,795	Regina, Sask	276,439	378,217
Fort William, Ont	293,950	213,300	Saskatoon, Sask	528,255	106, 135
Galt, Ont	88,363	101,136	Calgary, Alta	904,860	441,865
Guelph, Ont	161,445	83,015	Edmonton, Alta	1,087,085	424,030
Hamilton, Ont	1,412,700	478,700	Lethbridge, Alta	190,693	53,541
Kingston, Ont	340,789	178,717	Medicine Hat, Alta	40,655	14,325
Kitchener, Ont	355,488	140,009	Kamloops, B.C	48,815	50,000
London, Ont	545,695	448,760	Nanaimo, B.C	56,083	25,856
Niagara Falls, Ont	167,906	40,480	New Westminster,		
Oshawa, Ont	40,939	49,035	B.C	135,062	114,080
Ottawa, Ont	1,495,490	914,615	Prince Rupert, B.C	52,500	29,117
Owen Sound, Ont	22,415	38,875	Vancouver, B.C	2,800,546	1,542,966
Peterborough, Ont	192,364	133,400	North Vancouver,	W	
Port Arthur, Ont	279,503	113,275	B.C.	76,595	26,721
Stratford, Ont	48,533	70,242	Victoria, B.C	307,447	278,646
St. Catharines, Ont	219,466	110,781	T-4-1- 01 111	D# 000 #=#	
St. Thomas, Ont	44,955	64,513	Totals—61 cities	37,922,575	19,653,928

¹No building permits reported. ²Unrevised figures.

These 61 cities had, in 1931, about 36 p.c. of the population of Canada, while in 1932, the latest complete year, their building permits also had a value equal to about 36 p.c. of the total contracts awarded according to MacLean Building Reports, Ltd. Official summary figures, since 1923, of building permits and of the closely related subjects of prices of building materials, of employment and wages in the building industry, are given on the next page.

The index numbers of wages and prices of materials show the fluctuations in building costs over the period. During 1933, the wages' index declined by 20.7 p.c. as compared with 1932, and there was a slight increase of 0.9 p.c. in the index of wholesale costs of building materials. The

reduction in the wages' index in building trades has probably been much more than is indicated by these figures. Index numbers of wages in these trades are based chiefly on union rates in cities, and the types of construction which have been stimulated have been those where the higher paid trades have not been in great demand. The reduction in common labour costs has been proportionately greater than in the trades.

Building Permits, 1923-33

Year	Value of Building Permits Issued	Index Numbers of Value of Permits Issued (1926=100)	Average Index Numbers of Wholesale Prices of Building Materials (1926=100)	Index Numbers of Wages in the Building Trades (1913=100)	Index Numbers of Employment as Reported by Employers in the Construction Industries (average, calendar year 1926=100)
1923 1924 1925 1926 1927 1928 1928 1929 1930 1931 1931	133,521,621 126,583,148 125,029,367 156,386,607 184,613,742 219,105,715 234,944,549 166,379,325 112,222,845 42,319,397 19,653,928	85·4 80·9 79·9 100·0 118·0 140·1 150·2 106·4 71·8 26·7 13·6	111-9 106-6 102-9 100-0 96-1 97-4 99-0 90-8 81-9 77-2 78-1	166 · 4 · 169 · 1 170 · 4 172 · 1 179 · 3 185 · 6 197 · 5 203 · 2 195 · 7 178 · 2 157 · 5 ²	80.9 80.3 84.9 100.0 109.0 118.8 129.7 129.8 131.4 86.0 74.6

¹ The 1933 figures are for the eleven months to November 30, those for the other years are complete. The building permits are revised figures, except in the case of 1933, those for earlier years are final. ² Preliminary figure.



The Dressing Plant at a Canadian Granite Quarry.—Canada possesses valuable limestone, granite and sandstone resources which are being developed to an increasing extent during recent years, not only for the production of crushed stone but for building, ornamental and monumental purposes.

Photo, courtesy Department of Mines.

CHAPTER XIII

TRANSPORTATION AND COMMUNICATIONS

Railways.—The distance across Canada from the Atlantic to the Pacific oceans is approximately 3,500 miles and three transcontinental railways stretch from coast to coast. These, with numerous branch lines, give Canada a railway mileage per capita second only to Australia among the nations of the world.

In 1922 the Government amalgamated the Intercolonial, Transcontinental, and other roads with the Canadian Northern, the Grand Trunk and the Grand Trunk Pacific which it had been obliged to take over, due to failure under private operation, and placed the whole under one Board. In 1932 this great system controlled 23,771 miles of railway, being the largest single system in North America. Side by side is the Canadian Pacific with its 17,045 miles of road (exclusive of 70 miles in Canada and 5,156 miles in the United States which it controls) and its subsidiary steamship lines on the Atlantic and the Pacific. The Canadian Pacific, operating in a northern latitude, forms, with its auxiliary steamship services, a comparatively short way from Europe to the Far East.

Canada has elaborate machinery for the government control of transportation in the Board of Railway Commissioners, first organized in 1904, which took over the functions of the Railway Committee of the Privy Council as a rate-controlling body. The Commission has jurisdiction also in matters relating to the location, construction and general operation of

railways.

Due to changing conditions and the increasing complexities in the transportation field, the Government in November, 1931, appointed a Royal Commission to inquire into the whole problem of transportation in Canada, particularly in relation to railways, and shipping and communication facilities, having regard to present conditions and the probable future development of the country. The Commission was under the chairmanship of The Rt. Hon. Lyman P. Duff, Judge of the Supreme Court of Canada.

The Commission's report was submitted on September 13, 1932, and its main findings were that, due to intense competition between the Canadian National and the Canadian Pacific railways, extravagant expenditures had been incurred and this duplication of services and effort, with increased competition from motor vehicles and decreased business due to the industrial depression, were proving disastrous to the railways. It

recommended that:-

(1) The identity of the two railway systems should be maintained.(2) The management of the Canadian National Railways should be

emancipated from political interference and community pressure.

(3) Machinery should be provided for co-operation between the two systems for the elimination of duplicate services and facilities and the avoidance of extravagance.

(4) A scale of economies should be effected to bring the burdens of the National system within reasonable dimensions and effectively

check extravagant and costly operation.

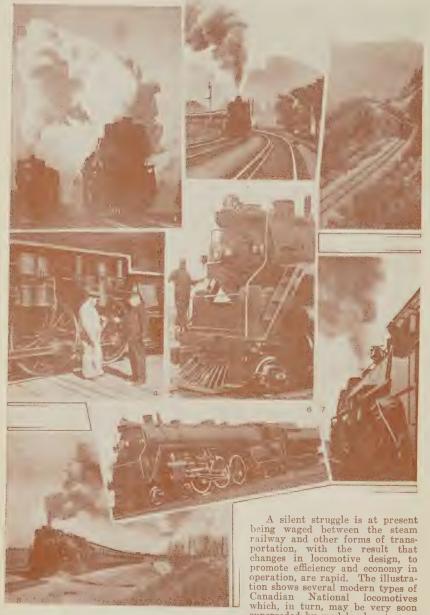
(5) Provision should be made for reasonable protection for the privately-owned undertaking against arbitrary action by the publicly-owned undertaking which might unfairly prejudice the interests of the

privately-owned undertaking.

To accomplish this the present Board of seventeen Directors of the Canadian National Railways should be replaced by three Trustees. The annual deficits of the Canadian National Railways should be paid by the Dominion Government and not by railway debentures. A continuous audit should be made by independent auditors. A statutory duty should be imposed upon the Trustees of the Canadian National Railways and upon the Board of Directors of the Canadian Pacific Railway to adopt as soon as possible such co-operative measures, plans and arrangements as shall, consistent with the proper handling of traffic, be best adapted to the removal of unnecessary or wasteful services and practices, to the avoidance of unwarranted duplication in services of facilities and to the joint use and operation of all such properties as may conveniently and without undue detriment to either party be so used. A tribunal of three members. the Chief of the Board of Railway Commissioners as Chairman, and a representative from each company, should be appointed to settle all disputes arising out of the co-operative arrangements requested by one or both of the railways and the decision of the majority of the tribunal, which must include the Chairman, should be binding on both railways, appeals being allowed only as to questions of law if a question of jurisdiction is involved. The Commission also recommended that an interprovincial conference be held to promulgate regulations for control of motor vehicle traffic and competition with railways. An Act embodying the recommendations in respect to the railways was passed by Parliament at the session of 1932-33.

Conditions in 1932 and 1933.—Canada's railway situation in 1932 may be summed up as follows: a population of 10,506,000 was served with a total of 42,437 miles of single track, and an additional 14,624 miles of second and third main track, industrial track, yard and sidings. The single track mileage in Ontario was 10,908, Saskatchewan had 8,438 miles, Alberta 5,678, Quebec 4,879, Manitoba 4,420 and British Columbia 4,085. The investment in Canadian railways was approximately \$3,468,642,000 and the gross earnings were \$293,390,415. The number of employees was 132,678 and the wages bill \$181,113,588. The Canadian railways carried 21,000,000 passengers and 68,000,000 tons of freight during the year and used about 26 p.c. of all the coal consumed in Canada. The railways are supplemented by efficient and adequate marine services, modern hotels in the chief cities from coast to coast, and no less than 42,101 miles of telegraphs which are under their control and operated directly by them. In common with the majority of industries, railway business has declined more or less steadily during the past three years. The decline in freight traffic started in August, 1929, and by the end of the year the total was below the 1928 record by 16 p.c. The total for 1930 was less than for 1929 by 15 p.c., the 1931 total was less than for 1930 by 10 p.c., the 1932 total was down 21 p.c., and the total for the first half of 1933 was 16 p.c. less than for 1932. The slump in passenger traffic also started in August, 1929, and continued in an unbroken series of declines to June, 1933, when an increase over June, 1932, traffic of 9 p.c., as measured in passenger miles, was recorded. The total for the first six months of 1933, however, was 10 p.c. below the total for the first half of 1932.

EXPRESS TRAINS OF THE CANADIAN NATIONAL SYSTEM



Canadian National locomotives which, in turn, may be very soon superseded by models almost revocationary prove successful. The picture shows: (1) Two greyhounds of the iron road in the Montreal yards "straining at the leash"; (2) The Ocean Limited, at Belœil, Que.;

The railway gross operating revenues and revenue car loadings, by months for 1931, 1932 and to November of 1933 are shown below.

Railway Statistics, by Months, 1931, 1932 and Jan. to Nov., 1933

Month		ailway Groating Reve		Total Revenue Car Loadings		
	1931	1932	1933	1931	1932	1933
	\$000	\$000	\$000	No. 000	No. 000	No. 000
January February March April May June July August September October November December	28,075 26,572 30,365 30,604 30,667 30,268 29,194 28,072 30,158 32,611 31,688 27,732	22,120 22,294 25,027 23,851 23,400 24,813 22,970 23,100 28,988 28,190 24,276 21,902	17, 643 16, 788 20, 612 19, 530 21, 447 24, 310 23, 713 23, 730 25, 872	204 190 211 214 216 222 207 205 227 265 231 185	166 174 186 180 183 185 157 176 216 212 193 153	134 133 157 138 161 176 163 186 202 222 201

Canals.—Canals were the earliest large transportation works in Canada. One of the first locks was a small one constructed by the Hudson's Bay Co. at Sault Ste. Marie and it was destroyed by United States troops in 1814. Another was built at the Lachine Rapids in the St. Lawrence above Montreal in 1825, followed by the Welland Canal in 1829 to overcome the obstacle of Niagara falls. The Rideau Canal (military in primary purpose), the St. Lawrence System and the Chambly Canal followed. To-day there are seven canal systems under the Dominion Government, namely: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to lake Huron, (6) from the Atlantic ocean to Bras d'Or lakes in Cape Breton, and (7) from Winnipeg to lake Winnipeg on the Red river. The total length of the waterways comprised in these systems is about 1,594 statute miles. Among projected canals the most important are those connected with the deepening of the St. Lawrence waterway.

(3) The Continental Limited, going through the Yellowhead Pass; (4) An Engineer and a Conductor on the trans-Canada route checking time. Note the powerful driving wheels behind the men. It is in them that speed lies. Those of the monster 5700 are 80 inches in diameter; (5) and (6) Front and side views of Locomotive 5700; (7) On the lookout from the locomotive cab; (8) The International Limited on the run between Montreal and Toronto.

The fastest steam-driven giant on wheels in service in Canada, the Hudson locomotive 5700, now hauls the world's fastest train, the International Limited pool train of the C.N.R. and the C.P.R. systems from Montreal to Chicago, Ill. The International Limited, the swiftest train in the world for its distance, covers the 334 miles between Montreal and Toronto in six hours, a fraction less than a mile a minute, and reaches Chicago 17 hours and 30 minutes after leaving Montreal. To keep to schedule, 5700 sometimes has to travel at the rate of 80 miles an hour but this does not overtax the resources of this giant. From end to end, the Hudson is 92 feet 5½ inches long and weighs, engine and tender, more than 331 tons. The water and coal capacity of the tender is greater than that of any other locomotive on the system. Twenty tons of coal can be carried and 14,000 imperial gallons of water. The boiler pressure is 275 pounds; the maximum tractive power, without the booster, 43,300 pounds; with the booster, another 10,000 may be added. Besides Locomotive 5700, her equally wonderful sisters, 5701, 5702, 5703 and 5704, are all workers in every-day life.

Photos, courtesy Canadian National Railways.

The Welland Ship Canal.—With the opening of the Welland Ship Canal, the traffic through that waterway has increased from 6,100,000 tons for 1930, to 7,300,000 tons for 1931 and to 8,500,000 tons in 1932. Although opened for traffic in April, 1930, the allowable draught was only 18 feet. This, however, was increased to 20 feet in April, 1932, and the official ceremony of opening the canal was held on August 6, 1932. The canal has 30 feet of water in the locks and 25 feet in the stretches between locks which may be readily increased to 30 feet by dredging. The time of transit for the 27·7 miles has been reduced from about 16 hours for the old canal to about 7½ hours and the number of locks reduced from 26 to 8. The locks are 80 feet wide and 859 feet between inner gates and the minimum width of the canal at the bottom is 200 feet. The lift of seven locks ranges from 43 feet 8 inches to 47 feet 10¾ inches while that of the guard lock varies with the lake levels, the total difference in elevation of lake Erie and lake Ontario being 327 feet.

The St. Lawrence Waterway.—On July 18, 1932, Canada and the United States signed a Treaty providing, primarily, for the construction of canals and channels of 27 ft. depth so that ocean-going ships and heavy draught lake-freighters may carry cargoes up and down the Great Lakes-St. Lawrence waterway without breaking cargo. The dams necessary to the development of a navigation system in the international section of the St. Lawrence river would incidently make available about 2,000,000 horse-power in this section of the river.

On July 11, 1932, the Dominion of Canada and the province of Ontario entered into an agreement relating to the construction of and payment for the necessary navigation and power works in the International

Rapids section of the St. Lawrence river.

The St. Lawrence Waterway Treaty must still be approved by the United States Senate and the Parliament of Canada before going into effect.

The Canada-Ontario Agreement is made subject to its approval by the Parliament of Canada and by the Legislature of the province of Ontario and, unless the Treaty is ratified within three years of the date of the agreement, the agreement can be cancelled by either party.

Electric Railways.—There were horse-car systems in Montreal and Toronto as early as 1861, but the first electric street railway (at St. Catharines, Ont.), dates only from 1887, followed by the Ottawa Electric Railway in 1891, and the electrification of the Montreal and Toronto systems in 1892. They are to-day, of course, common to practically all the cities of Canada. Great advances have also been made in the construction and use of suburban or inter-urban electric lines.

The automobile in recent years has seriously reduced the street and inter-urban electric railway traffic. In 1932, there were 41 systems operating 1,873 miles of track with a total investment of \$225,747,251. During the year 642,831,002 passengers were carried which was a decrease of 77,637,359, or 10·8 p.c. from the 1931 traffic. Gross revenues amounted to \$43,339,381 and the total pay roll amounted to \$21,534,419.

Express Companies.—Express service has been defined as "an expedited freight service on passenger trains". There are now four systems in operation with a capital somewhat over \$6,700,000, operating on 63,046 miles of steam and electric railways, boat lines and stage routes, and

with gross receipts of \$16,870,806. Money orders and travellers' cheques to the amount of \$45,511,024 were issued during 1932.

Roads and Highways.—Quite as fundamental as railways and waterways, especially in these days of extensive motor traffic, is a good roads system and in this regard Canada has not been backward. A rapidly increasing tourist traffic which brought into the trade channels of the nation an estimated sum of around \$212,448,000 in 1932 has naturally stimulated first class road construction and Dominion and provincial engineers are devoting a great deal of thought and attention to the construction, maintenance and care of highways. (See also p. 112.) In 1932, Dominion, provincial, and municipal* expenditures on the improvement and maintenance of roads amounted to \$80,645,228, and another \$7,892,154 was spent on bridges and ferries.

Mileage Open for Traffic, Jan. 1, 1933, and Expenditures on Highways, 1932

Class of Highway	Mileage	Expenditure ¹	\$
Unimproved earth	131,327 175,682	For construction	66, 250, 229
Gravel Waterbound macadam Bituminous macadam Bituminous concrete Cement concrete Other	81,233 4,913 2,145 884 2,017 119	For maintenance	22,287,153
Total	398,320	Total	88,537,382

¹Including bridges and ferries.

Motor Vehicles.—The motor vehicle has been the raison d'être of the highway development and has increased in numbers at a very rapid rate. Both private and public passenger and freight motor vehicles have taken an increasing amount of passenger and freight traffic from the railways. Several of the smaller electric railways have had to cease operations entirely and others have abandoned certain lines where the traffic had declined until operation was unprofitable. The passenger traffic on the steam railways has shown no increase during the past ten years despite increases in population, and, in the present depression, has decreased at an alarming rate. In the past few years motor trucks have been carrying enormous quantities of freight, including lumber, hay, and similar commodities, which five years ago were considered safe from the encroachment of the motor truck.

Registrations of motor vehicles have increased from 89,944 in 1915 to 728,005 in 1925 and to 1,114,503 in 1932. The latter figure gives an average of one motor vehicle to every 9.4 persons. The United States New Zealand and Hawaii were the only countries with a greater number per capita, and the United States, France and the United Kingdom were the only countries having a greater number of motor vehicles registered. The greatest density in Canada was in Ontario, where there was one motor vehicle to every 6.5 persons. The western provinces averaged 8.5 to 10.6, the Maritime Provinces, 12.6 to 14.6 and Quebec had one motor vehicle to each 17.5 persons.

^{*} This does not include municipal expenditures on other than provincially subsidised roads.

Number of Motor Vehicles Registered in Canada, by Provinces, Calendar Years 1920, 1925 and 1929-32

Note.—The numbers of motor vehicles in the Yukon are included in the totals for Canada.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
1920 1925 1929 1930 1931	6,116 7,376	22,853	19,022 31,736 34,699 33,627		562,658 562,220	51,241 77,259 78,850 75,210	79,078 128,426 127,193 107,981	54,357 98,720 101,119 94,727	56,618 95,468 98,784 97,932	407,064 728,005 1,188,929 1,232,486 1,200,907 1,114,503

Unfortunately, the increased use of motor vehicles has increased the number of fatalities due to motor vehicle accidents, not only in the cities and towns but also on the highways. In 1926, 606 persons were killed in motor vehicle accidents and in 1929 the number had more than doubled, being 1,300. In 1930 there was a reduction to 1,290, in 1931 the number was 1,316, and in 1932 it was reduced to 1,116.

The annual revenue to the provinces from registration of motor vehicles was \$21,126,271 in 1932, which was an increase of \$1,441,363 over 1931, but \$1,385,202 under the year 1929. From gasolene taxes, the revenue amounted to \$27,083,316. All the provinces except Alberta raised the tax during 1932 and 1931; New Brunswick, Manitoba and British Columbia raised it to 7 cents, and the other provinces to 6 cents.

Air Navigation.—A more recent invention is the aeroplane, already of economic importance in the transportation of passengers and supplies to new and remote mining areas, etc. The mileage flown by aircraft increased from 185,000 in 1922 to 4,569,131 in 1932, when 76,800 passengers, 3,129,974 pounds of freight or express, and 413,687 pounds of mail were carried.

The aeroplane has proved a boon to Canada in developing her mining, forest, fishery, water-power and other resources. By shortening the immense distances which characterize the country and by facilitating the rapid exploration of northern areas, the heavier-than-air machine has found a permanent place in the administrative field. Aerial forest fire patrols are now carried on over large parts of almost every province; fishery patrols by aeroplane protect territorial waters and enforce fishing regulations; and by the use of aeroplanes equipped with special cameras, preliminary surveys, which would have taken years by the older methods are now rapidly made over large tracts of intricate country. For details regarding the air mail service see p. 126.

Shipping.—The tonnage of sea-going vessels entered and cleared at Canadian ports showed an almost continuous increase up to 1914; and again during the fiscal years ended 1920 to 1929. The effects of the depression, however, are evident here also and, for 1933, the total tonnage of 76,272,485 was 19 p.c. less than the peak reached in 1929. The tonnage of coasting vessels has also grown, increasing from 10 million tons in 1876 (the first data compiled) to 83,000,000 tons in the fiscal year ended March 31, 1933.

The vessels on the Canadian Shipping Registry in 1902 numbered 6,836 of 652,613 tons. From then there was a fairly steady increase in the

number of vessels to 8,573 in 1919, followed by a decrease to 7,482 in 1921; since when there has been an increase to 8,905 representing 1,427,648 tons in 1931.

In the '70's shipbuilding was an important industry in Canada especially in the Maritime Provinces; the vessels built were mostly wooden sailing vessels. The invention of the iron steamboat greatly affected the industry in Canada, and there was a more or less steady decline in the number of vessels built and registered each year from 1885 to 1914. The War stimulated shipbuilding and there was a temporary activity assisted by the marine program of the Dominion Government. During 1931, the latest year for which complete statistics are available, 9 steel vessels of 7,853 gross tonnage, and 38 wooden vessels of 2,400 gross tonnage were built. Of the \$11,113,099 representing the total value of production in 1931, however, only \$3,424,031 was for vessels built or under construction, while \$4,960,923 was for repairs and custom work, \$2,728,145 for other products, including aeroplanes, boilers, engines, structural steel, etc.

Telegraphs.—Canada's first telegraph line was erected in 1846-47 between Toronto, Hamilton, St. Catharines and Niagara. In 1847 also the Montreal Telegraph Co. was organized and a line built from Quebec to Toronto. Other lines rapidly followed, to be brought eventually under the single control of the Great Northwestern Telegraph Co., which remained alone in the field until the building of the Canadian Pacific Railway and the Canadian Government telegraph lines. In 1932, there were 366,142 miles of telegraph wire in Canada, handling 12,025,826 messages, and the gross revenue was \$9,381,075. In addition, six transoceanic cables have terminii in Canada, five on the Atlantic and one on the Pacific, and handle 6 million cablegrams annually. There are also 32 coast stations, open for commercial traffic, mostly government owned but operated in part by the Marconi Wireless Telegraph Co., in addition to stations operated in connection with shipping or private commercial stations operated by canneries, logging companies, etc. The number of wireless messages handled is now about 300,000.

Telephones.—The telephone was invented in Canada, and the first talk was conducted by Alexander Graham Bell between Brantford and Paris, a distance of eight miles, on Aug. 10, 1876. Telephone development in Canada, however, dates only from 1880. In 1883 there were only 4,400 rental-earning telephones, 44 exchanges, and 40 agencies, with 600 miles of long-distance wire. In 1932 the number of telephones was over 1,260,000 with a 5,000,000 wire-mileage, the investment being over \$333,000,000. In the three Prairie Provinces there are well-organized government systems. Next to the railways, the telephone companies are probably the largest annual investors in new plant and construction in the Dominion. Canada has more telephones per capita than any other country except the United States.

Radio.—Under the Radiotelegraph Act, the administration of radio within the Dominion was vested in the Department of Marine. The matter of Dominion jurisdiction was questioned by certain of the provinces from time to time, but on Feb. 9, 1932, the Judicial Committee of the Imperial Privy Council ruled that the control and regulation of radio communication was within the jurisdiction of the Dominion Parliament. This decision was followed by the nationalization of radio broadcasting in Canada. Previous to the decision of the Privy Council regarding

Dominion control of radio, an investigation into the radio broadcasting situation in Canada had been undertaken by a Royal Commission, in 1929. This Commission, of which Sir John Aird was chairman, not only examined the Canadian situation but also surveyed the radio broadcasting systems obtaining in the United States, Great Britain, and certain European countries, and the report, though not acted upon at the time, was



Radio Communication.—The rapid development of radio communication within the last decade and the importance which this means of communication has assumed because of its special characteristics, viz., its instantaneous appeal to the mass of the people within reception distance and the fact that much of the personality of the speaker is transmitted with the voice, have made it necessary that the most up-to-date facilities should be installed in the key stations at the larger cities to promote reception under all circumstances.

The antenna system for CRCM is a quarter wave vertical radiator suspended between two 300-foot self-supporting steel towers. The ground system consists of copper buses radiating from a centre at the base of vertical antennæ and connected to buried copper plates.

Inset in the main picture is a view of the 5 k.w. transmitter unit for CRCM. The broadcasting lines which link the transmitter to the studios are equalized to well within the range of the speech input equipment so that the transmitter is capable of reproducing faithfully (with 100 p.c. modulation on program peaks) the transmission from the studios in Montreal or from the

Canadian Radio Broadcasting Commission networks.

RADIO

considerations guiding the Commission's report was the desirability of providing a broadcasting service for Canada adapted to the special requirements of the country and free from external influence; to this end the Commission had advocated Dominion control.

Following the Imperial Privy Council ruling referred to, an unanimous report of a Special Committee of the House of Commons, which advocated a national system, was adopted without opposition in the House of Commons in 1932 and a bill based upon it was introduced by the Prime Minister at the same session of Parliament. The Canadian Radio Broadcasting Act, 1932, was passed without opposition, and provided for the appointment of a Commission as proposed by the Committee and vested certain powers in the Commission.

The personnel of the Commission was: Chairman, Hector Willoughby Charlesworth, Toronto; Commissioners, Thomas Maher, Quebec, and

Lt.-Col. William Arthur Steel, M.C., Ottawa.

The Commission came into official existence on January 18, 1933. For the first few months thereafter, it was mainly engaged in making plans, forming the nucleus of an organization, and acquiring facilities for conducting a broadcasting service. By about the end of May, it had taken over the radio broadcasting establishment of the Canadian National Railways, consisting chiefly of three broadcasting stations, at Moncton, Ottawa, and Vancouver; had leased a station in Toronto to provide an outlet for the Commission for its broadcasting service there; had arranged for the use of transcontinental transmission wires for carrying its programs; and had also made arrangements with broadcasting stations in the principal centres from coast to coast for broadcasting its programs. With these facilities, it began to provide a broadcasting service on regular schedule, the service covering about four hours a day, seven days of the week. Late in the summer, this service was extended to the West. An arrangement was effected between the Commission and the large broadcasting companies in the United States for the exchange of programs. Under this arrangement, the Commission's service of Canadian programs is supplemented by several programs a week from United States sources, while a half dozen outstanding Canadian programs are broadcast over networks covering the United States. It is hoped to make similar arrangements with Great Britain and other countries when technical difficulties can be overcome. The Commission also broadcasts Canadian events of special interest, some of which are supplied to the American broadcasting companies, similar broadcasts being obtained from the United States in exchange. In co-operation with Canadian Press, it supplies a news bulletin service three times a day.

The Commission's broadcasting service has not replaced any service available to Canadians before the Commission came into existence. It covers large populated areas which previously had suffered from inadequacy of radio service, not having the advantages of the large central urban cities in this connection.

By the provisions of the Radio Broadcasting Act, the national service has to be self-sustaining, supported by the revenues from the licence fee for operators of receiving-sets and from sponsored programs. For the first year of its operation, however, only about half the revenue from the former source became available to it, while it had practically no revenue from the latter source.

The Post Office. The Post Office is under the direction of a special Department, the Dominion being divided into fifteen districts which in their entirety embrace a territory more extensive than that served by any other system in the world except those of the United States and Russia. Rural mail delivery dates from 1908. The number of post offices in operation was 12,074 in 1933, the postal revenue being approximately \$37,000,000. The auxiliary money order branch issued orders payable in Canada to the amount of \$102,000,000 in 1933, and in other countries to the value of about \$8,000,000. In addition, postal notes to the value of \$11,000,000 were issued in 1933. During the War, the domestic letter rate was increased to 3 cents per ounce but was reduced to 2 cents as from July 1, 1926. Similarly, the 2 cents per half-ounce (Imperial penny postage) rate, to Great Britain and other parts of the Empire, established at the time of the Diamond Jubilee of Queen Victoria, instead of the older 5-cent rate, was advanced to 3 cents and then to 4 cents in the War period, but was reduced to 2 cents as from Dec. 25, 1928. In May, 1929, the 2-cent letter rate was applied to France and on Christmas Day, 1929, to correspondence for the countries of South America. On July 1, 1930, the rate of letter postage for all other countries was reduced to 5 cents for the first ounce and 3 cents for each additional ounce. On July 1, 1931, the letter rate of postage for Canada, Great Britain, the British Empire, France, the United States, and all other places in North and South America, was increased to 3 cents for the first ounce and 2 cents for each additional ounce.

In its per capita use of the mails Canada takes a high place. In 1868, the year following Confederation, the average postal expenditure for each member of the population was less than 27 cents, whereas during 1932 each person in Canada expended approximately \$3.56. This is remarkable when it is considered that rates of postage have decreased during this period.

The air mail service was inaugurated about Christmas, 1927. In the first year of operation, 1927-28, the mileage flown was 9,538 and the weight of mail carried, 38,484 lb.; during 1930-31, 1,747,950 miles were flown and 506,881 lb. of mail carried, during 1931-32 1,229,021 miles were flown and 443,501 lb. of mail carried, and during 1932-33 432,378 miles were flown and 454,303 lb. of mail carried.

In December, 1929, the air mail route between Fort McMurray, Alta., and Aklavik, N.W.T., was inaugurated. This route extends for 1,676 miles down the Athabaska, Slave and Mackenzie rivers to a point nearly 300 miles within the Arctic Circle. Remarkable regularity and despatch have characterized the service. New mining camps of northern Ontario and Quebec were also linked up by air mail in December, 1929.

The principal development of 1930 was the organization of a daily air mail service between Winnipeg and Calgary via Moose Jaw, Regina, and Medicine Hat, with a northern link to Saskatoon, North Battleford and Edmonton. On August 16, 1931, this service was rearranged to link up Edmonton with Calgary on the main route from Winnipeg and service to Saskatoon and North Battleford was discontinued. Lethbridge was added as a point of call on January 15, 1931.

On March 31, 1932, this trans-prairie service was suspended while the Toronto-Detroit service was discontinued on April 30, 1932, following a reduction in the appropriation for air mail transportation in Canada during the fiscal year 1932-33.

CHAPTER XIV

EXTERNAL TRADE OF CANADA—NON-COMMODITY EXCHANGES

External Trade

Total Trade

Canada's foreign trade during the year ended Mar. 31, 1933, in common with that of most other countries, continued the decline which had its inception in 1929. The value of Canada's imports in 1933 was lower than for any year since 1910, and exports than at any time since 1915. From 1932 to 1933 the decrease in the Dominion's foreign trade was: based on declared value—imports 29.8 p.c., exports 18.2 p.c.; based on volume—imports 25.7 p.c., exports 8.3 p.c. During the year many adverse factors tended to reduce the export trade of all nations. The chief factors were: increases in tariffs, extension of exchange controls, and depreciated currencies, as well as quotas and other restrictions. A further decline in commodity prices, which was world-wide, also kept the purchasing power of British and foreign countries, as well as that of Canada, at a low level. The foreign trade of Canada suffered materially under these unprecedented handicaps. Even with the material decrease in import and export trade, analysed in the following pages, Canada has maintained her relatively high place among the trading nations of the world.



Canada Abroad—Canada House, the High Commissioner's Offices in London, England, is shown to the right. View from Charing Cross corner of Trafalgar Square.

Photos, Canadian Government Motion Picture Bureau.

Canada's total trade for the fiscal year 1933 amounted to \$887,097,541, a reduction of 23·9 p.c. compared with 1932 and 48·5 p.c. compared with 1931. In spite of the large decrease in the past three years total trade is now nearly 8 times that at Confederation.

The following table shows the trend of total Canadian trade (i.e., excluding the small percentages of foreign merchandise exported) for typical years from 1906 to 1929 and annually thereafter.

Total Canadian Trade¹ with British Empire and Foreign Countries

		Total				
Fiscal Year	United Kingdom Other British Empire		United States	Other Foreign Countries	Canadian Trade	
1906. 1914. 1922. 1929. 1930. 1931. 1932. 1933.	\$ 196,640,380 347,324,375 416,497,018 623,771,866 470,925,703 368,743,891 280,415,504 270,827,074	\$ 25,570,276 45,844,988 78,447,645 169,6)5,632 161,320,037 129,018,931 86,352,876 71,676,177	\$ 252,802,758 559,674,963 808,546,839 1,367,624,374 1,362,491,800 934,067,581 586,873,449 375,708,455	\$ 44,210,822 97,938,111 184,553,510 468,386,891 373,794,344 274,524,959 201,206,377 161,971,993	\$19, 224, 236 1,050, 782, 437 1,488,045,012 2,629,388,763 2,368,531,884 1,706,355,362 1,154,848,206 880,183,699	

¹These figures do not include exports of foreign merchandise.

The Dominion's total trade with the United Kingdom in 1933 was \$271,599,252, showing a decrease compared with 1932 of 3·5 p.c. and with 1931 of 26·6 p.c. Total trade with the United States in 1933 was \$381,077,886, a decrease of 36·1 p.c. compared with 1932 and of 59·8 p.c. compared with 1931. The above figures of total trade include exports of foreign produce from Canada as well as domestic exports. Total exports of such foreign merchandise amounted to \$11,221,215 in 1932, and \$6,913,842 in 1933, which is a very small proportion (about 1 p.c.) of total trade for those years.

In 1933 the percentage of total Canadian trade carried on with the United Kingdom was 30·8, with other British countries 8·1, with the United States 42·7, and with other foreign countries 18·4, whereas in 1932 total Canadian trade with these same countries was in the following proportions: 24·3 with the United Kingdom, 7·5 with other British countries, 50·8 with the United States, and 17·4 with other foreign countries.

As regards total Canadian trade, therefore, the relative trend in 1933 was upwards with the United Kingdom, with other British countries, and with other foreign countries, but downwards with the United States.

The following résumé of total trade for the years 1921-33 shows that for only three of the thirteen years did imports exceed exports. The year of highest per capita trade was 1921 with 1929 a close second; the year of lowest per capita trade in the period was 1933.

Ratio of Exports to Imports and Value per capita of Exports, Imports and Total Trade, fiscal years 1921-33

Fiscal Year	Excess of Imports Total Entered Export over		Percentage Rate of Total Exports	Estimated	Values per capita of—			
	Consumption over Total Exports	Imports Entered for Con- sumption	Imports Entered for Con-		Exports Canadian Produce	Total Imports	Total Trade ¹	
	\$	\$	p.c.	No.	\$	\$		
1921 1922 1923 1924 1924 1925 1926 1927 1928 1929 1929 1930 1931 1932 1933		6,122,677 142,716,593 165,396,430 284,429,106 401,371,405 236,680,637 141,641,568 123,216,984 ————————————————————————————————————	97.60 100.82 117.78 118.51 135.69 143.28 122.92 112.76 109.72 90.12 101.57 113.29	8,787,949 8,919,000 9,010,000 9,143,000 9,294,0JU 9,451,000 9,636,000 9,35,000 10,029,000 10,208,000 10,506,000 10,660,000	135·32 83·00 103·39 114·35 115·04 139·19 129·96 124·92 136·00 117·83 77·09 54·86 44·45	141·20 83·84 89·09 97·72 85·76 98·13 106·99 112·78 126·23 122·31 87·39 55·06 38·12	276·52 166·84 192·48 212·07 200·80 237·32 236·95 237·70 262·23 240·14 164·43 109·92 82·57	

¹Not including exports of foreign produce.

Imports

For the fiscal year ended March 31, 1933, imports were less by \$172,-120,160, or 29.8 p.c., than for the year 1932. Of the total imports of \$406,383,744 for 1933, 57.2 p.c. came from the United States; 21.4 p.c., from the United Kingdom; 8.3 p.c., from other British countries; and 13.1 p.c., from other foreign countries. In 1932 the proportions were 60.8 p.c., 18.4 p.c., 7.2 p.c., and 13.7 p.c. respectively.

The percentage of imports from the United States and other foreign countries to total imports has therefore shown a decline for the fiscal year 1933 but those from the United Kingdom and other British countries show increases.

The table below gives the import figures for British and foreign countries for the years 1906, 1914, 1922, 1929, 1930, 1931, 1932 and 1933.

Imports from British and Foreign Countries

Fiscal Year	United Kingdom Other British Empire		United States	Other Foreign Countries	Total Imports	
	\$	\$	\$	\$	\$	
1906 1914 1922 1929 1930 1931 1932 1953	69,183,915 132,070,406 117,135,343 194,041,381 189,179,738 149,497,392 106,371,779 86,466,055	14,605,519 22,456,440 31,973,910 63,346,829 63,494,864 55,401,034 41,440,214 33,918,269	169,256,452 396,302,138 515,958,196 868,012,229 847,442,037 584,407,018 351,686,775 232,548,055	30, 694, 394 68, 365, 014 82, 736, 883 140, 278, 652 148, 156, 943 117, 307, 251 79, 005, 136 53, 451, 365	283,740,280 619,193,998 747,804,332 1,265,679,091 1,248,273,582 906,612,695 578,503,904 406,383,744	

The table on p. 130 shows the positions of the twenty chief commodities in import trade for the past two fiscal years.

Twenty Chief Commodities Imported, 1932 and 1933

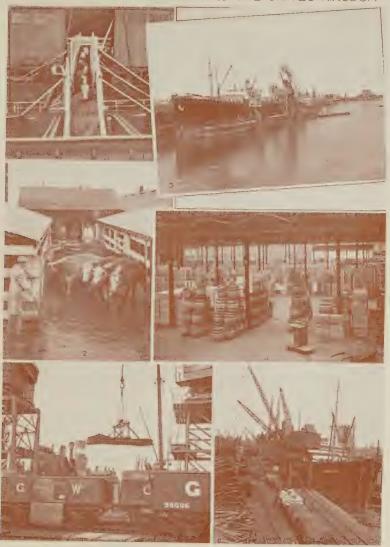
Rank		Commodity (In order of value, 1933)	Imports, fi		Increase (+) or Decrease (-) 1933 Compared with 1932			
1932	1933	(12 01 01 01 7 01 10 10 10 10 10 10 10 10 10 10 10 10	Quantity Value		Quantity	Value		
				\$		\$		
4	2	Coalton Crude petroleumgal	11,045,180 897,580,215	28,989,650 26,878,125	$ \begin{array}{r} -2,072,110 \\ -178,696,896 \end{array} $	- 6,511,712		
5	3	Sugar for refining	878,434,800	14,068,983	-72,748,100	$\begin{array}{c} + & 2,684,041 \\ - & 5,230,652 \end{array}$		
3 2	4	Machinerygal.		14,000,252	-	- 10,387,337		
6	5		1,402,130	13,415,734	— 896,675	- 12,125,827		
8	7	Automobile parts	_	11,306,598	_	- 4,098.410 - 3.428,993		
9	8	Plates and sheets (iron)cwt.	3,404,313	9,354,335	- 1,634,164	- 4,005,684		
10	9	Books and printed matter	-	9,168,487		-3,440,838		
11	10 11	Gasolenegal. Raw cottonlb.	93,864,758	7,983,845	-21,958,199	-1,767,861		
13		Settlers' effects	94,705,651	7,448,536 6,716,111	+ 1,670,635	- 353,508 - 1,546,334		
12	13	Paper		6,179,897		- 1,546,334 $-$ 2,645,244		
7	14	Electric apparatus		6,048,542	-	- 8,623,881		
16 17	15	Engines and boilers	-	5,297,109	-	- 1,913,140		
23	16 17	Clay and its products Dried fruits	01 914 044	5,072,380	1 0 001 015	-2,123,077		
15	18	Vegetable oilsgal.	81,314,844 9,873,392	4,913,221 4,832,494	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	- 17,152 $-$ 2,981,523		
19	19	Raw silklb.	2,572,949		+ 33,816	- 1,715,827		
18	20	Tealb.	38,417,276	4,720,435	- 4,348,427	- 2,404,879		

It is an interesting study to note the changing relations over a number of years between the commodities listed by rank. Coal, now in first place, has been among the first three commodities since 1890 but machinery, which is now in fourth place, headed the list in 1930, with imports valued at \$69,000,000 and was in sixth place twelve years ago when its imports were valued at \$37,000,000, being then outranked by: sugar and products, coal, cotton goods, woollen goods, and rolling-mill products. Crude petroleum has risen to prominence rapidly since 1920 when it was in eleventh place.

Commodities are classified by the Bureau of Statistics into nine main groups as follows: agricultural and vegetable products; animals and animal products; fibres, textiles, and textile products; wood, wood products and paper; iren and its products; non-ferrous metals and their products; non-metallic minerals and their products; chemicals and allied products; and miscellaneous commodities. Imports for all groups showed heavy decreases for 1933. The greatest absolute decreases were experienced by agricultural and vegetable products, iron and its products, and fibres, textiles and textile products in the order given, but the greatest percentage decreases were shown by non-ferrous metals and their products (48.4 p.c.), iron and its products (44.4 p.c.), and animals and animal products (37.1 p.c.).

The most important group from the standpoint of imports was agricultural and vegetable products under which classification imports reached \$88,221,000, by far the most important items being alcoholic beverages, sugar and fresh fruits. This group showed a decrease of 31·4 p.c. from the 1932 figures. The other chief groups in order of value of imports were: non-metallic minerals and their products (\$87,658,000—chiefly coal and petroleum); fibres, textiles and textile products (\$61,215,000—chiefly raw cotton and cotton products); and iron and its products (\$59,337,000—chiefly machinery, automobile parts, plates and sheets, etc.).

TRADE BETWEEN CANADA AND THE UNITED KINGDOM



Trade between Canada and the United Kingdom has shown definite improvement during 1933, especially in recent months (see p. 133). The illustration shows: (1) Part of a large shipment of Western cattle which left Montreal on Oct. 6, 1933, inaugurating a new phase in Canada's live-cattle trade with Great Britain; heretofore only finished or short-keep cattle have been so exported. The cattle in this shipment were feeder stock for finishing in England. (2) Canadian cattle on arrival at Cardiff, Wales. (3) Discharging a cargo of Canadian grain in the United Kingdom by means of three floating elevators. (4) Canadian apples in one of the many spacious United Kingdom warehouses. (5) The return cargoes brought back to Canada comprise Welsh coal, iron and steel in both primary and finished forms, machinery, textiles, chemicals, etc. The picture shows "black sheets" being loaded at Cardiff for shipment to Canada. (6) The Canadian Victor discharging a cargo of general Canadian merchandise consigned to the United Kingdom.

Photos, Publicity Division, Department of Trade and Commerce. Trade between Canada and the United Kingdom has shown definite improve-

Photos, Publicity Division, Department of Trade and Commerce.

Exports

The Dominion leads the world in exports of wheat, printing paper, nickel and asbestos; occupies third place in exports of wheat flour; fourth place in the exports of automobiles and wood pulp; and sixth place as regards rubber tires. The exports of these staple products from Canada make up about 50 p.c. of the Dominion's total domestic exports. Canada also ranks high in the world's exports of many other staple products such as lumber and timber, fish, copper, barley, cheese, raw furs, etc.

Total exports for the fiscal year ended March, 1933, were \$480,713,797, of which \$6,913,842 were exports of foreign produce. The domestic exports were, therefore, \$473,799,955 and showed a reduction of 17.8 p.c. compared with 1932. Of these domestic exports 38.9 p.c. went to the United Kingdom, 30.2 p.c. to the United States, 8.0 p.c. to other British countries and 22.9 p.c. to other foreign countries. The United States and the United Kingdom have always been Canada's two best customers, but the export records for 1932 and 1933 show that, as compared with 1931, the percentages of our exports to the United Kingdom are increasing, while those to the United States show a decrease.

Canadian Exports to British and Foreign Countries

		Canadian E	Exports to—			
Fiscal Year	United Kingdom	Other British Empire	British United		Total Domestic Exports	
1906 1914 1922 1929 1930 1931 1932 1932	\$ 127, 456, 465 215, 253, 969 299, 361, 675 429, 730, 485 281, 745, 965 219, 246, 499 174, 043, 725 184, 361, 019	\$ 10,964,757 23,388,548 46,473,735 106,258,803 97,825,173 73,617,897 44,912,662 37,757,908	\$3,546,306 163,372,825 292,588,643 499,612,145 515,049,763 349,660,563 235,186,674 143,160,400	\$ 13,516,428 29,573,097 101,816,627 328,108,239 225,637,401 157,217,708 122,201,241 108,520,628	\$ 235,483,956 431,588,439 740,240,680 1,363,709,672 1,120,258,302 799,742,667 576,344,302 473,799,955	

Twenty Chief Commodities Exported, 1932 and 1933

Rank	Commodity (In order of value, 1933)	Total E fiscal yes March		Increase (+) or Decrease (-) 1933 Compared with 1932			
1932 1933	(In order or variety, 1999)	Quantity	Value	Quantity	Value		
1 1 2 2 2 3 3 3 5 4 4 5 5 6 6 6 6 9 7 7 8 8 8 8 11 9 12 10 10 11 15 12 20 13 28 14 18 15 21 16 13 17 14 18 44 19 26 20 26 20	Wheat bush Newsprint paper cwt. Wood pulp. ewt. Wheat flour bril Fish cwt. Planks and boards M ft. Raw furs. Copper bars, rods, etc. cwt. Whiskey. pf. gal Cheese cwt. Nickel cwt. Apples, fresh brl Meats Automobiles Silver ore and bullion oz Oats. bush Barley. bush Pulpwood cord Rye bush. Machinery	1,992,059 857,116 325,607 1,780,026 13,368 15,585,632 13,824,449 9,863,054 476,748 8,211,332	74, 136, 863 17, 786, 135 16, 987, 110 16, 658, 723 11, 098, 960 10, 633, 750 10, 118, 191 9, 920, 98, 758, 415 7, 464, 501 6, 683, 140 5, 795, 531 4, 216, 577 4, 300, 592 4, 293, 341 4, 287, 425	- 6,682,452 - 2,975,740 - 145,369 - 1,178,160 - 286,004 - 520,548 + 2,869 - 218,184 + 121,144 - 4,529 - 2,167,999 - 16,851 - 14,474,624 - 356,176 + 3,851,519	- 9, 888, 647 - 1, 910, 433 - 6, 981, 303 - 7, 667, 492 - 1, 476, 407 - 2, 939, 542 - 1, 701, 349 - 1, 255, 552 - 4, 644, 900 + 815, 328 + 1, 722, 324 - 2, 178, 260 - 743, 957 - 361, 743 - 5, 709, 570 - 3, 908, 719 - 2, 905, 641		

Of the nine main classification groups in the fiscal year ended 1933, the exports for the agricultural and vegetable products group were first and reached \$203,000,000, with wheat by far the chief item, accounting for 64·2 p.c. of the total. The wood, wood products and paper group was second in exports (\$121,000,000). Newsprint paper accounted for about 61 p.c. of these exports. Animals and animal products was third with exports of \$54,000,000 followed by the non-ferrous metals and their products group with \$43,000,000. The chief items in the former group were raw furs, cheese and fish (fresh and canned), and in the latter, copper bars and rods, aluminium, nickel and raw gold.

Wheat has been the leading export for more than twenty years and even though exports of wheat in 1930 showed a decrease of \$212,770,851 and the figures for 1931 and 1932 showed further decreases of \$38,333,706, and \$61,680,386 respectively this commodity still holds first place, and the 1933 export figures show an increase of \$15,000,000 over those of the previous year. But there have been many changes within this period in the order of all the other commodities listed. So recently as 1920 wheat was followed by meats (now thirteenth), wheat flour, planks and boards, and printing paper (now second), in the order named.

Review of Trade by Months in Latest Years

The monthly trade figures as available when going to press as compared with 1930, 1931 and 1932 were as follows (\$000 omitted):—

Imports and Exports, by Months, January 1930 to November 1933

Month.	Imports				Exports of Canadian Produce			
	1930	1931	1932	1933	1930	1931	1932	1933
	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000
January February March April May June June Jugust September October November	84,662 80,922 113,026 71,402 101,545 91,544 84,551 77,906 87,900 78,358 76,325 60,338	50, 414 50, 994 75, 381 51, 189 73, 457 52, 509 48, 379 47, 308 45, 379 45, 933 46, 911 40, 290	34, 115 35, 586 57, 448 29, 794 44, 361 40, 743 35, 711 36, 527 34, 574 37, 095 37, 769 28, 961	24,441 23,514 32,851 20,457 32,927 33,619 35,738 38,747 38,698 41,070 43,712	73,507 66,960 89,595 50,744 77,261 78,703 76,408 69,290 81,046 82,781 73,061 66,820	44,683 43,873 55,048 33,935 59,833 54,348 49,645 48,764 48,991 55,538 57,487 53,255	38,367 36,431 39,749 26,976 40,594 40,945 42,321 41,314 42,187 56,626 45,945 42,616	31,56,26,39 36,57;20,01;45,57;45,96;51,34;44,72;57,78;60,21;60,38;

At this time, the trade figures for the twelve months ended October, 1933, indicate that while total exports reached \$514,687,666 compared with \$524,757,105 for the year ended October, 1932, showing a reduction of 1.9 p.c., and imports were reduced from \$473,084,805 to \$388,905,458, or by 17.8 p.c., exports to the United Kingdom actually increased in the same period from \$180,499,966 to \$198,329,743, or by 11.0 p.c. and imports from the United Kingdom also increased from \$93,806,802 to \$95,157,552, or 1.4 p.c.

Our trade with the United States has suffered much more severely, imports having fallen from \$278,463,855 to \$210,858,072, or by 24·3 p.c., and exports from \$185,537,075 to \$165,544,488, or 10·7 p.c. in the same period.

The changes in direction of Canadian trade are brought out more clearly by a consideration of the proportion of total trade carried on with these countries. For the year ended October, 1932, 58.9 p.c. of our imports came from the United States, but the proportion for the year ended October, 1933, was only 54.2 p.c. On the other hand, the United Kingdom, which supplied 19.8 p.c. of our imports in the former period, increased that proportion to 24.5 p.c. in the latter period. As regards exports, 34.6 p.c. in the former year compared with 31.6 p.c. in the latter for the United States, and 34.8 p.c. with 38.9 p.c. for the United Kingdom.

For the latest months of August, Sept., Oct. and Nov. the improvement of trade with the United Kingdom, and the British Empire generally, was particularly well marked, the percentages of imports being: U.K.—Aug., 25·9; Sept., 24·5; Oct., 25·6; Nov., 25·9; British Empire—Aug., 35·3; Sept., 33·8; Oct., 34·3; Nov., 35·2; U.S.A.—Aug., 51·8; Sept., 51·0; Oct., 49·8; Nov., 49·76. The percentages of exports for the same months were: U.K.—Aug., 32·3; Sept., 38·3; Oct., 40·4; Nov., 47·8; British Empire—Aug., 41·5; Sept., 46·4; Oct., 48·8; Nov., 55·8; U.S.A.—Aug., 39·7; Sept., 32·0; Oct., 30·3; Nov., 25·0.

It will be seen from the above that for November, 1933, almost 56 p.c. of our exports of domestic produce went to the British Empire.

The Canadian Trade Balance

From Confederation to 1933, exports of all produce from Canada to call countries exceeded imports in twenty-eight years, while imports exceeded exports in thirty-eight years. The largest excess of exports in a single fiscal year was in 1918, a "war year", when it amounted to \$622,637,000; while the largest excess of imports, amounting to \$294,139,000 occurred in 1913. The "unfavourable" balances occurred chiefly in 1903-13, years of heavy capital imports.

Canada's balance of trade with the United Kingdom has been favourable since 1889. With the United States it is usually unfavourable.

Trade Balances of the Principal Countries of the World, calendar years 1931 and 1932

Credit balances marked (+) Debit balances marked (-)

Ranl	k	Countries	19	31	1932			
1931 19	932	Countries	Amount	Per Capita	Amount	Per C	Per Capita	
			Million \$	\$ c.	Million \$		\$ c.	
16 1 13 1 11 1 14 1 10 1 15 1 18 1 17 1 19 1	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	United States. Germany Union of South Africa Argentina Argentina Brazil Canada New Zealand British India Denmark Norway Japan Spain Spain Sweden Belgium Italy Netherlands Switzerland France United Kingdom	+ 348.4 + 612.0 + 34.6 + 119.7 - 10.9 + 126.4 + 113.7 - 10.9 + 103.2 - 35.1 - 101.3 - 45.3 - 21.4 - 81.7 - 17.9 - 182.8 - 481.4 - 1,916.6	+ + 9 4 4	+ 289.3 + 187.4 + 131.9 + 92.6 + 83.3 + 49.2 + 33.5 - 6.9 - 21.6 - 42.6 - 45.5 - 84.2 - 207.5 - 211.8	++++++	2 64 4 42 22 72 11 32 14 14 2 07 4 68 21 98 0 02 0 57 1 59 0 11 0 92 6 93 5 57 2 02 25 99 51 91 10 77 24 65	

Non-Commodity Items of Foreign Exchange

A nation's commodity trade alone cannot be taken as a complete index of its prosperity, for there are many other exchanges besides those of goods, all of which must be taken into account in order to find out the basic state of affairs in regard to total international transactions. Among such more or less "invisible" exchanges may be mentioned interest and freight payments, financial services, insurance premiums, advertising payments, royalties, cash contributions to various objects, the financing of tourist expenditures, the money movement which accompanies immigration and emigration, etc. If all the visible and invisible items which make up a country's dealings were set down and totalled, the debit or credit balance would be a final invisible item representing an export or import of capital. Just as in the case of an individual an excess of expenditures over receipts must be made up by borrowing or reduction of capital or an excess of receipts over expenditures results in a capital asset, so it is in the case of a nation. The accompanying table, which includes the latest estimates of the Bureau of Statistics, shows debit and credit items of Canada's business relations and exchanges with other countries as a whole for 1931 and 1932.

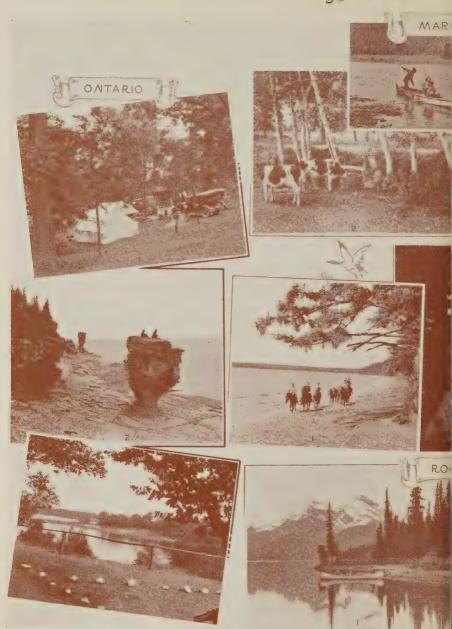
Estimated Balance of Canada's International Payments, 1931 and 1932 ("000" omitted)

	19	31	19	32
Item	Exports Visible and Invisible	Imports Visible and Invisible	Exports Visible and Invisible	Imports Visible and Invisible
1 C	\$ 000	\$ 000	\$ 000	\$ 000
1. Commodity Trade.—Recorded merchandise exports and imports	617,243	628,098 500	502,801	452,614 -
Deductions for settlers' effects and other	617,243	628,598	502,801	452,614
non-commercial imports	-9,328	-16,751	-6,526	-14,048
Deduction for overvaluation	607,915	611,847 5,000	496, 275	438,566 22,000
Corrected total of commodity trade 2. Exports and imports of gold coin and bull-	607,915	606,847	496,275	416,566
ion	70,062	2,038	60,825	2,175
to Canadian currency. 4. Freight payments and receipts, n.o.p. 5. Tourist expenditures. 6. Interest payments and receipts. 7. Immigrant remittances. 8. Government expenditures and receipts. 9. Government receipts, reparations.	49,670 250,776 70,722 10,051 11,750 1,295	76,528 76,452 252,076 13,110 10,960	7,919 38,864 212,448 56,000 6,080 8,850	58,864 57,403 248,000 7,127 10,379
Charitable and missionary contributions. Insurance transactions. Advertising transactions. Motion picture earnings. Id. Capital of immigrants and emigrants.	27,000 3,000 - 5,173	1,800 20,000 5,000 3,750 3,820	500 24,000 2,000 - 4,416	1,000 17,000 3,500 3,250 3,775
 15. Earnings of Canadian residents employed in U.S.A. (net figure)	1,857	-	750	-
17. Exchange London and New York on interest and maturity payments and receipts	_	5,000	10,000	23,750
18. Known omissions, such as direct magazine subscriptions, artists' and entertainers' receipts, radio programs, etc	_	5,000	20,000	4,000
19. Difference between all exports and imports ²	-	27,790	-	72, 138
Totals	1,110,171	1,110,171	928, 927	928, 927

¹ Included in Commodity Trade since 1928.

² This item represents net capital movements and errors and omissions.

SCENIC GEMS .



Canada's scenic attractions are not limited to any one locality, although each province has of the Rockies. The above plate shows: Ontario—(1) Campers at Point Pelee Nationa erly park areas. Quebec—(1) The new Gaspé Belt Highway at Grande Vallee; (2) of the St. Lawrence—the National Highway near Baie St. Paul. Maritimes—(1) Salmor Island; (3) Evangeline's Well, renowned in song and story, Grand Pre, Nova Scotia. Manitoba; (2) Sunset over Waskesiu lake, Prince Albert National Park, Saskatchewan and Maligne lake, Jasper National Park; (2) Lake Louise, Banff National Park.

Photos, courtesy National Parks of Cam



own characteristic types as, for instance, the old-world charm of Quebec or the grandeur rk; (2) Flower Pot Island, Georgian Bay; (3) A scene in one of Ontario's more north-ther view of the Gaspé Highway at Cap Gros-Morne; (3) A scene along the north shore ing on the Restigouche river. New Brunswick; (2) A rural scene in Prince Edward ries—(1) Pony-riding along the beach of Clear lake, Riding Mountain National Park, Sanctuary lake, Prince Albert National Park, Saskatchewan. Rockies—(1) Mount Unwin

The Tourist Trade.—An item in the above which deserves special mention is the tourist trade. Since 1926 various methods have been adopted by the Dominion Bureau of Statistics for obtaining a general idea of the amount and value of this trade. The following figures of tourist expenditures 1926-32 are in accordance with the latest revision. For the year 1932 the tourist trade was calculated to have brought \$212,000,000 (Canadian funds) into the country, and after the deduction of \$57,000,000 spent by Canadian tourists abroad, the favourable balance was estimated at \$155,000,000. By far the most important factor is the automobile traffic between Canada and the United States, it being estimated that such United States tourists spent \$159,838,000 (Canadian funds) in Canada in 1932, while Canadian automobile tourists spent about \$27,247,000 in the United States. Tourist expenditures are, in part, the return which Canada derives from her picturesque scenery, her fish and game, her winter sports and other advantages, and represent an "invisible" export which is increasing steadily in importance.

Tourist Expenditures, 1926-32

Year	Expenditures of Outside Tourists in Canada (1)	Expenditures of Canadian Tourists in Other Countries (2)	Excess of (1) over (2)
1926. 1927. 1928. 1929. 1930. 1931.	238,477,000 275,230,000 309,379,000 279,238,000 250,776,000	98,747,000 108,750,000 107,522,000 121,645,000 100,389,000 76,452,000 57,403,000	\$ 102,420,000 129,727,000 167,708,000 187,734,000 178,849,000 174,324,000 155,045,000

¹ Canadian funds.

Canada-United States tourist traffic is greater than that between any other two countries in the world. The high per capita wealth in both countries promotes travel and the close interlocking of business interests necessitates many business trips across the frontier. There is, in the United States, one automobile to every 5·1 persons and in Canada, one to every 9·4. For the United States family of moderate income the relative cheapness of an automobile holiday in Canada is attractive. Railway and steamship lines add substantially to the number of holiday seekers.

The benefits of the tourist business are not altogether one-sided,

The benefits of the tourist business are not altogether one-sided, however. Canadians are attracted by the larger United States' cities and the more "settled" type of scenery, while large numbers of wealthy Canadians visit the United States' winter playgrounds in the south. The estimated annual expenditure of Canadian tourists in the United States is only about one-third that of United States' tourists in Canada, but in comparing these the relative populations of the two countries should be considered. If United States' tourists to Canada were in the same proportion to their population as Canadian tourists to the United States are to ours, the income accruing to Canada from this source—assuming expenditures to be on the present basis—would be more than \$680,000,000; but Canadian car owners, who bulk large in this movement, are wealthier on the average and the number of passengers per car is greater, hence the higher average expenditure.

CHAPTER XV

INTERNAL TRADE—WHOLESALE AND RETAIL TRADE —FREIGHT MOVEMENTS—STOCK MARKETS COMMODITY PRICES—COST OF LIVING

Internal trade in Canada is of primary importance among economic activities. The home consumption of goods and services by a population of 10,000,000 requires a greater expenditure of economic activity than that required for the prosecution of external trade. Internal trade includes the transportation and distribution of goods within the country through the medium of railways, steamships, warehouses, wholesale and retail stores, and other agencies. It includes all professional services such as those carried on by doctors, theatres, hospitals, schools, banks, insurance companies, and innumerable others. All such activities, even if not productive of material goods, add substantially to the national income

Historically, Canadian internal trade developed as a result of the furtrade, fur being the first great staple sought in Canada by Europeans in exchange for their products. This trade spread until it covered the whole area of the Dominion, forming the framework into which the economic activities of the nation were gradually built. Lumber, fisheries, agricultural, mineral and other resources were gradually exploited. As population grew local manufacturing industries supplanted certain imports. Diverse resources in various parts of the country led to a vast exchange of products, and growing wealth to increasing abundance of services.

Unfortunately, owing to the many ramifications of internal trade, its statistical measurement presents great difficulties. Nevertheless some idea of its extent may be gathered from the fact that in 1931 the grand total value of the activities of those occupied in production of all kinds as estimated under the heading National Income on p. 48 was \$4,000,000,000.

while the money value of export trade was \$617,200,000.

The sections which follow deal with those features of internal trade which have not received treatment elsewhere in this handbook.

Wholesale and Retail Trade

The distribution of goods and services, to meet the demands of consumers, requires many types of establishments which employ hundreds of thousands of persons and use many millions of dollars of capital. A census of merchandising and service establishments, taken in 1931, showed that there were more than 120,000 retail stores in Canada with sales amounting to \$2,805,075,800. Including proprietors receiving a fixed salary, there were more than 300,000 persons on the pay-rolls of these stores and more than \$300,000,000 paid out to them in salaries and wages during the year.

Retail Services.—More than 40,000 establishments are engaged in supplying services of various kinds to the Canadian public. The provision of amusements and domestic and personal services forms the chief business of the service groups. In all, \$236,000,000 were spent by consumers in such establishments and 68,000 persons employed in these

undertakings.

Wholesale Trade.—The supplying of goods for the retail trade requires a complex organization, made up of many types of wholesale establishments. The census of wholesale business showed that there were more than 5,000 wholesale houses in Canada with sales amounting to slightly more than one billion dollars and 8,000 other types of wholesalers handling sales and orders to the value of two billion dollars. Ninety-five thousand persons found employment in wholesale establishments and their earnings totalled almost \$150,000,000.

Chain Stores.—In recent years, great changes have taken place in the distribution of goods. The chain store is now doing a large and growing proportion of the work of retailing merchandise. A survey of chain stores, made in connection with the Census of Merchandising, showed that chain stores do more than 20 p.c. of the total retail business of the Dominion. In food products, the most developed section of the chain-store movement, chain stores probably account for about 25 to 30 p.c. of the business. The total sales made by chain store organizations were \$548,000,000 in 1930 and those by food stores alone were \$137,000,000.

Internal Freight Movements

An important indicator of the volume of internal trade is found in the reports of revenue freight carried by the railways. In 1932 this revenue freight totalled 60,468,093 tons. The returns by provinces throw light on interprovincial trade in Canada. For example, the four western provinces show a net export to the eastern provinces of 6,358,234 tons of freight made up largely of agricultural and animal products. The eastbound movement of wheat alone amounted to 5,693,018 tons and other grains and agricultural products brought the total net eastern movement up to 6,529,803 tons. The movement of animal products going eastward was 164,323 tons. There were cross movements of mine products, the net movement westward of 75,902 tons consisting mostly of coal. Forest products moved eastward to the extent of 106,910 tons and manufactures and miscellaneous freight showed a westward movement amounting to 505,279 tons, fish, cement, lime and plaster and fertilizers being the only commodities listed with a net movement eastward.

Freight Originated and Freight Terminated for Seven Months ended July 31, 1933

Province	Originated at Stations in Canada	Received from Foreign Connections	Total Originated	Terminated at Stations in Canada	Delivered to Foreign Connections	Total Terminated
Prince Ed. Island Nova Scotia New Brunswick. Quebec. Ontario. Manitoba Saskatchewan Alberta. British Columbia.	000 tons 87 2,174 759 2,990 5,010 1,510 2,756 3,594 1,581	000 tons 63 227 1,205 7,120 66 154 62 95	87 2,237 986 4,195 12,130 1,576 2,910 3,656 1,676	000 tons 88 1,841 692 2,869 8,635 1,490 1,424 956 1,144	000 tons 2 214 552 1,657 5,521 64 98 1 1,789	000 tons 90 2,055 1,244 4,526 14,156 1,554 1,522 957 2,933
Totals, Seven Months, 1933	20,461	8,992	29,453	19,139	9,898	29,037
Totals, Seven Months, 1932	23,533	10,021	33,554	22,734	10,053	32,787

Stock Markets

A subject often classified under the head of finance but akin to internal trade, inasmuch as it concerns a great trading market closely linked with the business organization of the country, is that of stock markets. The principal stock exchanges in Canada are located at Montreal and Toronto, though those at other centres such as Winnipeg, Calgary and Vancouver are increasing in importance. In recent years there has been a huge increase in the volume of business transacted on the stock exchanges, due to the widespread participation of the general public in the "bull" market which extended from 1924 to 1929. Since 1929, however, trading has fallen away considerably, due to heavy losses, business depression and caution on the part of the investing public. July, August and September, 1932, sales figures showed an advance which, however, proved but temporary. A more substantial increase both in trading and in prices occurred in the early summer months of 1933.



The Montreal Stock Exchange—After a busy day.

Courtesy, Montreal Stock Exchange.

The extent of public participation in the stock market is illustrated by the table below showing the volume of sales on the Montreal Exchange.

Numbers of Shares Traded on the Montreal Stock Exchange, by Months, January 1930 to November 1933

Month	1930	1931	1932	1933	Month	1930	1931	1932	1933
Jan Feb March April May June	830,534 1,133,969 1,601,764 1,088,587	706,607 605,696 477,053 851,426	180,070 187,313 204,522	281, 197 207, 529 486, 726 1, 083, 485	Nov	558,387 817,409 1,350,604 466,867	169,400 437,503 308,888 431,758	544,528 506,926 206,902 193,093	433,747 399,022 370,325

Security Prices, 1931 and 1932.—The Bureau of Statistics publishes several series of index numbers designed to measure the movement of security prices in general and of important groups of stocks in particular, which constitute an important barometer of business conditions. The table below shows the course of the investors' index number for representative months in the years 1930, 1931, 1932 and 1933. A table of the index numbers of mining stocks by months during the same years is also given.

Investors' Monthly Index Numbers of Common Stocks, 1930-33 (1926=100)

Year and Month	Banks	Utilities	Industrials	Total
1930 (representative months)—				
January	120.3	133.3	209-1	155 - 7
April	118.6	143.7	220.9	166 - 5
August	113.3	116.0	153 - 1	125 - 0
December	108.2	104.7	120.3	103 - 1
1931 (representative months)—				
January	109-1	107.3	124.7	106.9
March	111.6	116.1	127.8	110.8
June	97.1	80.4	91.1	80 - 1
September	94.3	65.4	79.3	68 - 6
December	92.9	59.3	74.3	64 - 8
1932 (representative months)—				
January	90.3	59 - 1	73.7	64 - 8
March	86.0	59.8	71.5	64 · 1
June	60.5	34.9	48.8	43 - 2
September	76-1	56.9	73-8	63 • 0
December	67.5	45.1	58-4	51.3
1933 (representative months)—				
January	67· 5	44.6	59.6	51.6
March	62.3	38.2	57.3	47.8
June	72.7	53.8	103 · 6	74.7
July	79.6	58.5	118.3	83 - 3
October	70.9	45.9	100-1	70 - 4

Taking the prices of stocks in 1926 as equal to 100, the monthly index number of industrials reached its peak in September 1929, when it was 315.8, that is to say, industrials were on the average over three times the price prevailing in the base year 1926. In the same month the index for public utility stocks had risen to 163.1 and that for all common stocks to 217.1. November 1929 saw the index for industrials at 209.4, utilities at 130.9, and all stocks at 154.7. Throughout 1930 the trend was more gradually to lower levels with minor upward movements in April and September. This downward tendency was interrupted in the first two months of 1931, but in April the indexes for these groups fell below the 1926 figures and continued to fall until June, 1932. At that time, utilities touched 34.9, industrials 48.8, and all stocks 43.2. A temporary recovery in the next three months was followed by another setback. A more substantial advance occurred in the spring and summer of 1933, as indicated by July group indexes of 58.5 for utilities, 118.3 for industrials and 83.3 for all stocks, although the latest months have registered a recession from these levels.

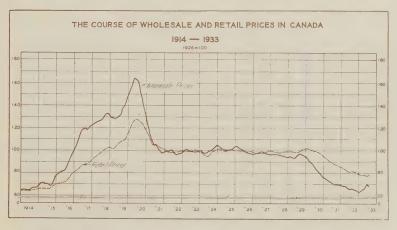
In mining stocks the peak of the bull market was reached in October, 1927, when the index was 143.8 (prices in 1926=100). From that date it has sagged, with temporary rallies, until it reached the figure of 59.2 in December, 1930. In 1931 this index rose gradually to 82.3 in April, but dropped back to 59.0 in December, and by June, 1932, had fallen to 48.3. Subsequent recovery caused it to advance almost without interruption to 113.4 in September, 1933.

Index Nun	bers of 7	Twenty	Mining	Stocks.	bv	Months.	1930 -33
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Month	1930	1931	1932	1933	Month	1930	1931	1932	1933
Jan. Feb. Mar. April May. June	78·9 86·1 85·2 83·3 76·3 73·1	68·5 73·3 77·1 82·3 75·9 69·1	59·7 57·3 57·8 52·4 48·4 48·3	67·1 75·3 68·4 74·5 89·6 104·1	July. Aug. Sept. Oct. Nov. Dec.	68·7 68·0 68·7 61·3 60·5 59·2	68.6 67.8 63.1 59.5 64.6 59.0	55.6 59.7 60.9 57.5 60.9 63.1	106·9 107·4 113·4 112·2 109·4

Prices of Commodities

Trade of all kinds is inseparably linked with price movements. Index numbers measuring the rise and fall of commodity prices are also an important indicator of business and of monetary conditions. The Dominion came into being at a time of falling prices but after 1870 prices rose. From 1872 to 1897, however, there was an unprecedented fall, Canada experiencing a drop of 44·3 p.c., attributable to monetary factors, the great increase in production, and improved transportation facilities. From this point until 1913 prices again tended upward. It was a period of rapid and unprecedented prosperity almost the world over, and with the rising tide of trade, prices rose steeply. On the basis of 1913, the general price



level in 1896 was 76·0; by 1912 it had risen to 99·5, a gain of over 23 points. In 1913 and 1914 a short slump preceded the Great War which resulted in a stupendous rise in commodity prices. With the end of the War came a momentary lull, but in 1919 and the early part of 1920 the post-war boom carried the level higher than ever. In May, 1920, the index number was 256·7. The reaction from the optimism which had hoped too much from an impoverished world, drove prices precipitately downward until in December, 1921, the index was 150·6. For the three years, 1922-24, it remained comparatively stable, but rose to 160·3 in 1925, falling to 156·2 in 1926.

Wholesale prices in 1926 were taken as the base of a new index number which in subsequent years fell to an average of $97 \cdot 7$ in 1927, $96 \cdot 4$ in 1928 and $95 \cdot 6$ in 1929. Thereafter in more rapid decline the index number receded to an average of $86 \cdot 6$ in 1930 and fell to $70 \cdot 4$ in December, 1931. The decline continued almost steadily until February, 1933, when the index was below 1913 levels at $63 \cdot 6$. In the next five months it rose to $70 \cdot 5$, but had dropped back to $68 \cdot 7$ in November.

New Index Numbers of Wholesale Prices, 1913-321 and, by Months, 1933

(1926 = 100)

919 920 921	65-5 1924	98.0 January 63 99.4 February 63 102.6 March 64 100.0 April 65 97.7 May 66 96.4 June 6 95.6 July 70 86.6 August 69 72.1 September 68 66.7 October 67 November 68
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¹ 236 commodities to 1926, thereafter 502. Preliminary figures.

Cost of Living

Statistics of cost of living constitute a very important phase of price statistics. Index numbers of retail prices, rents, and costs of services issued by the Bureau of Statistics are constructed from a general point of view, having for their object the measurement of the general movement of such prices and costs in the Dominion as a whole, and being so calculated as to make comparisons possible with other general index numbers constructed on similar principles, as, for example, the index of wholesale prices. Calculated as they are on the aggregative principle, i.e., the total consumption of each commodity, the Bureau's index numbers afford an excellent measurement of changes in the average cost of living in the Dominion as distinguished from that of any particular class or section.

The Bureau's index numbers of the cost of living are designed to show changes relating to average conditions. On the basis of 1926=100, the total index was 65·4 for the year 1913, 124·2 in 1920, 98·9 in 1928 and 99·9 in 1929. The latter part of 1929 was marked by a slight increase over the average for the year, a tendency which was still further apparent in the first month of 1930, when the total index reached 102·1 compared with 99·2 for the year 1930. From that time it has declined steadily and in July, 1931, registered 88·6. In August there was a slight upturn but thereafter the decline continued into 1933. Food prices turned firmer in the spring months of 1933, and advances were sufficient to offset further decreases in the group indexes for fuel, clothing, rents and sundries. Weakness in rentals was quite pronounced in the leasing period centring around Oct. 1, but shelter costs are still relatively higher than other budget groups.

Index Numbers of Retail Prices, Rents and Costs of Services, 1927-32, and by Months, 1933

(Average prices in 1926=100)

Year	Total Index	Food Index	Fuel Index	Rent Index	Cloth- ing Index	Sun- dries Index
1927. 1928. 1929. 1930. 1931. 1932.	98·4 98·9 99·9 99·2 89·6 81·4	98·1 98·6 101·0 98·6 77·3 64·3	97·9 96·9 96·4 95·7 94·2 91·4	98·8 101·2 103·3 105·9 103·0 94·7	97·5 97·4 96·9 93·9 82·2 72·8	99 · 1 98 · 8 99 · 6 99 · 4 97 · 4
January. February March April May June. July August September October. November December	79·1 78·4 77·8 78·0 77·0 77·0 77·2 78·6 78·8 77·9 78·1	62·8 60·6 60·4 61·3 61·9 62·2 63·2 67·8 65·9 65·4	89·2 89·1 88·7 88·6 88·3 87·6 86·0 86·3 86·3 87·0 87·2	90·0 90·0 90·0 90·0 84·0 84·0 84·0 84·0 84·0 80·4	69·2 69·2 66·5 66·5 66·1 66·1 66·1 69·9	94 · 93 · 93 · 93 · 93 · 93 · 94 · 6

Preliminary figures.



Toronto Harbour.—The illustration gives a good idea of the extensive facilities required in internal freight movements at a terminal point where lake and rail transportation meet.

Photo, Canadian Government Motion Picture Bureau.

CHAPTER XVI

PUBLIC FINANCE

Dominion Finance

Among the powers conferred on the Dominion Government by the British North America Act were: the right to deal with the public debt and property; the right to raise money by any system of taxation (the provinces were limited to direct taxation); and the borrowing of money on the credit of the Dominion. The Department of Finance was established in 1869 to have "supervision, control and direction of all matters relating to financial affairs, public accounts, and revenue and expenditure of the Dominion".

At Confederation the revenues, notably the customs and excise duties which had previously accrued to the treasuries of the provinces, were transferred to the Dominion and combined into a consolidated revenue fund against which certain specific charges such as cost of collection, interest on public debt, and salary of the Governor General were made. The remainder of the fund was appropriated by Parliament. The public works, cash assets and other property of the provinces, except lands, mines, minerals and royalties, also became Dominion property. In its turn the Dominion became responsible for the debts of the provinces.

Since the main source of the revenues of the provinces was now taken over the Dominion undertook to pay annual subsidies to the provinces for the support of their governments and legislatures. With the growth of the Dominion, the principle of subsidy payments has been extended to the western provinces and from time to time adjustments have been made

in the moneys so paid.

At the time of the formation of the Dominion, the revenue collections were comparatively small but obligations shouldered by the central government provided for completion of the Intercolonial Railway and, with the entry of British Columbia, for the construction of the Canadian Pacific Railway; early in the present century the National Transcontinental was undertaken. Indeed the single item of railways and canals accounted for almost the entire increase in the net national debt of from \$76.000.000 in 1868 to \$336,000,000 in 1914. To a very great extent therefore, the national debt down to the Great War represented expenditures for productive purposes and tangible assets were acquired by the Dominion therefor. Moreover this debt was largely held outside Canada. The following decade witnessed the tremendous increase in the debt from \$336,000,000 to a maximum of \$2,453,777,000 in 1923—an increase of over two billions of dollars not represented, in the main, by corresponding assets and upon which interest charges were relatively high. One redeeming feature was that the major portion of this debt was now held within the country, for the abnormal prosperity induced by the War provided Canadians with the funds to invest in Government issues and the added desire of the Government to tap the rapidly accumulating resources of the masses was instrumental in instructing the man-in-the-street how to invest his money in bonds. Following 1923 there was a steady fall in the net debt to \$2,177,-

763,959 in 1930, but the depression with accompanying railway deficits and large necessary expenditures for unemployment relief have established a new high level of indebtedness of \$2,596,480,826 as at Mar. 31, 1933. This equivalent of \$243.80 net debt per capita was exceeded by the per capita figures between 1920 and 1927. The maximum of per capita debt, viz., \$272.31, was reached in 1923.

The growth of the Dominion revenue, the Dominion expenditure, and the net public debt is briefly outlined in the following table:—

Dominion Finances, 1868-1933

Fiscal Year	Revenue Receipts	Per capita Receipts ²	Total Expenditure	Per capita Expenditure ²	Net Debt at end of Year	Net Debt per capita ²
1868 1871 1881 1891 1901 1911 1921 1922 1927 1928 1929 1930 1931 1932 1933	13, 687, 928 19, 335, 561 29, 635, 298 38, 579, 311 52, 514, 701 117, 780, 409 436, 292, 185 382, 893, 009 400, 452, 480 429, 642, 577 460, 151, 481 445, 916, 992 356, 160, 876 336, 721, 305 311, 126, 329	4·05 5·55 6·85 7·98 9·78 16·34 49·64 40·51 41·55 43·68 45·88 43·63 34·33 32·05 29·21	$\begin{array}{c} 14,071,689\\ 19,293,478\\ 33,796,643\\ 40,793,208\\ 57,982,866\\ 122,861,250\\ 5528,283,199\\ 355,186,423\\ 358,555,751\\ 378,658,4401\\ 388,805,953\\ 398,176,246\\ 440,008,854\\ 450,995,540\\ 1531,760,983\\ \end{array}$	37·58 37·21 38·50 38·77 39·01 42·41 42·93	75,757,135 77,706,518 155,395,780 237,809,031 268,480,004 340,042,052 2,340,878,984 2,389,731,099 2,266,850,233 2,225,504,705 2,177,763,959 2,261,611,937 2,375,846,172 2,596,480,826	22 · 47 22 · 09 35 · 82 49 · 69 47 · 18 266 · 36 252 · 88 243 · 68 233 · 59 221 · 95 213 · 38 218 · 00 226 · 14 243 · 80

Includes advances to railways or transfers from active to non-active assets.

²Per capita figures for census years are based upon census populations and for intervening years on revised official estimates.

Fiscal Year 1932-33.—The Minister of Finance, the Hon. E. N. Rhodes, in his Budget Speech of Mar. 21, 1933, outlined the financial position of Canada and estimated the 1934 income and expenditure of the Government. Provision was made, by the taxation changes detailed in the Budget, for funds to cover estimated expenditures for the year ended 1934.

The increased gold production made available for export, without weakening monetary gold reserves, and the conversion of an unfavourable balance of trade to a favourable one during the preceding two years were cited as significant influences which had enabled Canada to meet the burden of interest and principal payable abroad. The financial and monetary policies followed by the Government were also given as contributing factors to the efficient working of our internal credit structure. New long-term financing to the extent of \$267,000,000 excluding refunding loans was successfully negotiated. This, the Minister described as a splendid tribute to the efficiency of our financial institutions, the thrift of the Canadian people, and the underlying strength of the economic position.

The Public Accounts.—In the Public Accounts receipts are classified under two headings—receipts from taxation, and non-tax revenue resulting from public services maintained by the Government. Expenditures are classified under four headings: (1) Ordinary expenditures, which include the costs of government, pensions, subsidies to the provinces, etc.; (2)

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Capital expenditures on account of railways, canals and public works, for which corresponding assets are acquired; (3) Special expenditures including unemployment relief, etc.; and (4) Non-active loans and advances which are not interest-producing but are required in part to meet deficits of services for which the Government accepts responsibility.

The continuance of the declines in business activity and in commodity prices was reflected in a further fall in public revenues. This was particularly marked in that portion of the revenue derived from taxation,

which constitutes over 80 p.c. of total receipts.

Total receipts from taxation for the year 1932-33 amounted to \$254,-320,000 as compared with \$275,054,000 in the previous year, \$296,276,000 in 1930-31 and \$378,551,000 for 1929-30. Summary figures of these receipts and expenditures follow:—

Summary of Total Receipts, fiscal years 1930-33

Item	1929-30	1930-31	1931-32	1932-33
	\$000	\$000	\$000	\$000
Customs	179,430	131,209	104,133	70,073
Excise	65,036	57,747	48,655	37,834
War Tax Revenue— Banks. Trust and Loan Co's. Insurance Co's. Business Profits. Income Tax. Sales Tax. Tax on cheques, transportation tax, etc Totals, Receipts from Taxation. Non-tax Revenues.	1,408 -74 173 69,021 44,144 19,295 -378,551 62,861	1,429 	1,390 	1,328 826 62,067 57,978 24,214 254,320 52,317
Total Consolidated Fund Receipts Special Receipts	441,412 4,505	$349,587 \\ 6,574$	329,709 7,012	306,637 4,489
Grand Totals	445,917	356,161	336,721	311,126

Summary of Total Expenditures, fiscal years 1930-33

		1		
Item	1929-30	1930-31	1931-32	1932-33
	\$000	\$000	\$000	\$000
Ordinary Expenditure	357,780 22,561	389,558 28,222	375,403 16,980	358,528 8,548
Special Expenditure. Loans and Advances (Non-active)	9,804 8,031	16,741 5,488	55,460 ² 3,113	96,7841 67,901
Grand Totals	398,176	440,009	450,956	531,761

¹Includes \$53,423,000 income deficit of the Canadian National Railways incurred in the calendar year 1932, and \$36,721,000 for unemployment relief.

²Includes \$38,296,000 for unemployment relief.

It will be seen from the above tables that, for the fiscal year ended 1933, total receipts of \$311,126,000 compare with total expenditures of \$531,761,000 (including an income deficit of \$53,423,000 of the Canadian National Railways and transfers of \$62,938,239 from assets previously

regarded as active to non-active assets). Thus the deficit for that year was \$220,635,000, which compares with a deficit of \$114,235,000 for the fiscal year ended 1932, a deficit of \$83,848,000 for the year ended 1931 and a surplus of \$47,741,000 for 1930. However, of the 1933 deficit only \$104,273,753 represented increase of debt due to Government operations relating to the fiscal year.

Recent Changes in Dominion Taxation.—The Budget of April, 1932, raised the income tax to 11 p.c., on corporations and joint stock companies. The deduction of 20 p.c. from the tax payable under the established schedule of rates for personal incomes was repealed; a surcharge of 5 p.c. was made on net incomes of over \$5,000 and the exemptions were reduced from \$3,000 to \$2,400, and from \$1,500 for single persons to \$1,200. These changes applied to 1931 incomes.

The sales tax was increased by 2 p.c. to 6 p.c., and the special excise tax on goods imported into Canada was raised from 1 p.c. to 3 p.c. The stamp tax on cheques, promissory notes, money orders, etc., was increased from 2 cents for each instrument over \$5, to 3 cents on amounts between \$5 and \$100, and 6 cents over \$100. Sleeping car tickets were taxed 10 p.c. (minimum 25 cents) and parlour car tickets 10 cents flat; there were also changes in the tax rates of cable and telegraphic messages and in the stock and bond transfer tax. No important tariff changes were made pending the meeting of the Imperial Economic Conference in July, 1932.

In the Budget of March, 1933, the tax on incomes of joint stock companies was raised to $12\frac{1}{2}$ p.c. and the \$2,000 exemption which had previously existed was removed. Where a consolidated statement of a company and its subsidiaries was compiled, the tax rate was set at $13\frac{1}{2}$ p.c.

On personal incomes the exemption was reduced from \$2,400 to \$2,000 or from \$1,200 to \$1,000 as the case might be, and the exemption for dependent children was lowered from \$500 to \$400. The rate of taxation was increased according to a new schedule, the tax on the first \$1,000 of taxable income being 3 p.c.

In certain cases, new taxes of 5 p.c. were imposed at the source on interest or dividends paid by Canadian debtors to non-residents (Dominion Government bonds were exempt from this tax), or to residents where such interest or dividend is paid in funds which are at a premium in relation to Canadian exchange.

The sales tax was not changed, remaining at 6 p.c., though with a view to additional revenue an adjustment of the exempt and the partly exempt lists was made.

Special excise taxes were levied as follows: 10 p.c. on cosmetics and toilet preparations; 5 p.c. on automobile tires and tubes; 2 cents per pound on refined sugar; 25 cents per gallon on unfermented wort; and 50 cents per pound on malt syrup and malt products. The provisions of the Special War Revenue Act exempting from the stamp tax cheques, receipts to banks, money orders, travellers cheques, etc., not exceeding \$5 in value was repealed (except as regards creamery tickets or cheques). The stamp tax on postal notes was raised from 1 to 3 cents. Cigarette papers and tubes were taxed 2 cents per hundred leaves and 5 cents for 50 tubes, respectively.

The excise duty on distilled spirits used in the manufacture of proprietary medicines, extracts, perfumes, etc., was made \$2.50 per proof gallon and an excise duty of \$1 per proof gallon was imposed on spirits

distilled from juices of native fruits used by wine manufacturers in forti-

fying native wines.

In view of the tariff changes made following the Imperial Economic Conference and the subsequent establishment of the Tariff Board to hold hearings and report to Parliament on tariff adjustments, no important changes were made in the tariff schedules.

Provincial and Municipal Finance

Provincial Finance

Provincial Governments in Canada are in the position, under section 118 of the British North America Act, 1867 (30 and 31 Vict., c. 3), and the British North America Act, 1907 (7 Edw. VII, c. 11), of having a considerable assured income in subsidies from the Dominion Treasury. In addition, through the ownership of their lands, minerals and other natural resources, the provinces are in a position to raise considerable revenues through land sales, sales of timber, mining royalties, leases of water-powers, etc. Further, under section 92 of the British North America Act, Provincial Legislatures are given authority to impose direct taxation within the province for provincial purposes and to borrow money on the sole credit of the province.

Among the chief methods of taxation to be employed has been the taxation of corporations and estates. Prominent among the objects of increased expenditure are education, public buildings, public works (especially roads and highways), labour protection, charities, hospitals and

places of correction.

The Growth of Provincial Taxation.—Whereas in earlier years the Dominion subsidies, together with the revenues arising out of the natural resources of the provinces and from fees for specific services rendered to the citizens, nearly sufficed to cover the whole expense of government and rendered a resort to taxation for provincial purposes practically unnecessary in most of the provinces, the great increase in the functions of government since the commencement of the present century has put an end to this state of affairs. Provincial taxation has increased from \$15,003,526 in 1916 to \$109,165,948 in 1929, \$126,147,195 in 1930 and \$124,679,131 in 1931.

The increase in the use of automobiles, both for commercial purposes and pleasure, is clearly demonstrated by the growing revenues from licences and permits issued by the Provincial Governments. In 1921 the total revenue of all provinces from automobile licensing amounted to \$7,857,751. It had increased to \$13,020,607 by 1925 and in 1931 reached \$19,952,575. The growth of revenue from the gasolene tax still further demonstrates the increasing use of motor vehicles. In 1923 Manitoba and Alberta were the only provinces showing a gasolene-tax revenue, the total being \$280,404. In 1926 all provinces, except Saskatchewan, collected gasolene taxes which amounted to \$6,104,716. In 1931 all provinces collected \$23,859,067.

The provincial revenues from the liquor traffic have increased considerably of late years. The adoption of government control of the sale of liquor in all but one of the provinces, has resulted in trading profits, licensing revenues, and permit fees, all of which have swelled the provincial revenues. Prior to the adoption of government control such revenues were not available to the provinces. In 1925 the total revenue

collected by all provinces from the liquor traffic was \$8,964,824. By 1928 it amounted to \$22,755,212, in 1929 to \$27,599,687, 1930 to \$33,248,056 and 1931 to \$32,128,693.

Bonded Indebtedness of the Provinces.—The bonded indebtedness of the provinces amounts to about four-fifths of their total direct liabilities. In recent years, the aggregate bonded indebtedness of the provinces has steadily increased. The total for the nine provinces was \$708,900,342 in 1925, \$715,489,427 in 1926, \$757,168,785 in 1927, \$779,155,374 in 1928, \$819,-517,036 in 1929, \$919,142,905 in 1930, \$1,016,647,165 in 1931 and \$1,148,323,084 in 1932. This bonded indebtedness for 1932 was divided by provinces as follows: P.E.I., \$3,504,000; N.S., \$61,740,747; N.B., \$58,739,663; Que., \$91,987,692; Ont., \$499,986,011; Man., \$89,630,906; Sask., \$101,831,236; Alta., \$128,970,593; B.C., \$111,932,236. The development of the principle of public ownership is largely responsible for the high bonded indebtedness in certain provinces, particularly in Ontario where the hydro-electric system and the provincially-owned Temiskaming and Northern Ontario Railway largely account for the bonded indebtedness of the province. The larger of these public utilities, the hydro-electric system is, however, meeting from its revenues the interest on the indebtedness incurred in its construction.

. The expansion in the ordinary revenues and expenditures and the increases in direct liabilities of all Provincial Governments are shown for the years 1873-1932 and by individual provinces for 1932 below:—

Aggregate Provincial Revenues and Expenditures, 1873-1932, and by Provinces, 1932

Fiscal Year Ended—	Ordinary Revenue	Ordinary Expenditure	Direct Liabilities
	\$	\$	\$
1873	6,960,922 7,858,698 10,693,815 14,074,991 40,706,948 102,030,458 146,450,904 168,109,505 183,598,024 188,154,910 179,143,480 168,227,898 1,206,026 8,100,988 5,795,630 36,941,020 54,1775,233 14,631,341 11,902,647 13,492,430 21,982,583	6,868,884 8,119,701 11,628,353 14,146,059 38,144,511 102,569,515 144,183,178 165,538,910 177,542,192 184,804,203 190,754,202 183,667,116 1,2,77,401 7,858,239 6,360,894 37,525,729 52,173,087 14,631,341 17,722,936 18,645,481 27,472,008	128, 302, 8481 566, 470, 552 893, 499, 812 963, 169, 888 1, 034, 071, 264 1, 140, 953, 696 1, 276, 629, 288 1, 420, 227, 023 4, 280, 981 68, 078, 555 70, 626, 126 108, 188, 7102 578, 962, 459 124, 558, 810 140, 902, 935 162, 222, 980 162, 405, 467

Statistics for the Province of Saskatchewan are for 1913.

Municipal Finance

Under the provisions of the British North America Act, the municipalities are the creations of the Provincial Governments. Their organization and their powers differ in different provinces, but almost everywhere they have very considerable powers of local self-government. If

²Figures wired from Quebec. No statement in Public accounts.

we include the local government districts of Saskatchewan and Alberta, there are over 4,200 municipal governments in Canada. These 4,200 municipal governments have together probably 20,000 members described as mayors, reeves, controllers, councillors, etc., the experience training them for the wider duties of public life in the Dominion and in the provinces. Certain of the larger municipalities, indeed, are larger spenders of public money than are some of the provinces.

The cost of municipal government, like the cost of provincial and Dominion government, has greatly increased since the pre-war period, principally due to the increased services demanded from municipal bodies. Among such public services which play a large part in municipal expenditures may be mentioned education, roads and highways, sanitation, fire and police protection, and charities and social relief. Thus the aggregate taxes imposed by the municipalities of Ontario increased from \$34,231,214 in 1913 to \$128,657,684 in 1931. In Quebec the aggregate ordinary expenditures of the municipalities increased from \$19,478,740 in 1914 to \$46,400,700 in 1931. In Manitoba, again, municipal taxation has increased from \$9,449,000 in 1914 to \$19,082,974 in 1931, in Saskatchewan from \$13,359,000 in 1914 to \$26.670,972 in 1931, in Alberta from \$8,794,000 in 1915 to \$15,379,975 in 1931, and in British Columbia the tax receipts amounted to \$8,698,820 in 1914, while the tax levy amounted to \$20,397,195 in 1931. The tax receipts of the municipalities of Nova Scotia were \$6,445,645 in 1931 as compared with \$3,390,000 as recently as 1919.

Municipal System of Taxation.—Throughout the Dominion, the chief basis of municipal tax revenue is the real estate within the limits of the municipalities; though in certain provinces personal property, income, and business carried on are also taxed. General taxes are normally assessed at the rate of so many mills on the dollar of the assessed valuations. In the Prairie Provinces the values of improvements made to real property are often rated at a very low figure, e.g., in Saskatchewan, where the taxable valuations of buildings are about 12 p.c. of the taxable valuations of lands, and in Alberta, where they are about 27 p.c. of the taxable valuations of lands. Land valuations in the West, which in earlier years were somewhat inflated, have of late been assessed on a sounder basis, and in some provinces the Equalization Boards have placed a more equitable valuation on lands as among the various rural municipalities.

Bonded Indebtedness of Municipalities.—Like other Canadian governing bodies, the municipalities of the greater part of Canada borrowed rather too freely during the years between 1917 and 1930. The bonded indebtedness of Ontario municipalities rose from \$153,568,409 in 1913 to \$499,002.074 in 1931, while that of Quebec municipalities increased from \$132,078,584 in 1914 to \$428,018,439 in 1931, and a proportionate increase took place in other provinces. There was an increase for 1931 over 1930 for the municipalities in each of the provinces. Total bonded indebtedness for all municipalities throughout Canada equalled \$1,341,199,091 for 1931 as compared with \$1,282,327,692 in 1930. British Columbia ranks third after Ontario and Quebec with \$129,913,890, and these three provinces have about 79 p.c. of the municipal bonded debt of Canada.

CHAPTER XVII

CURRENCY AND BANKING—INSURANCE—LOAN AND TRUST COMPANIES—MISCELLANEOUS

Currency and Banking

Early trade in Canada was carried on by barter. Beads, blankets, beaver and other furs, tobacco and wheat have been at various times used as substitutes for currency. Further, under the French régime playing cards stamped with a value and redeemable yearly on the receipt of bills

A FEW OF CANADA'S FINANCIAL INSTITUTIONS

Head Office of the Bank of Montreal, Montreal, Royal Trust Building to right.



Bank of Nova Scotia, Toronto. The General Manager's Offices are located here.

First Unit of
Canada Life Assurance
Company's Head Office
Building, Toronto,
Osgoode Hall shown to right.



The Canadian Bank of Commerce Head Office Building, Toronto.

of exchange on Paris, came into circulation. In the early years of the British period, the Spanish dollar and the English shilling were the chief mediums exchange, together with such paper money as the army bills issued by the Government for supplies during the war of 1812. In 1853 a measure was passed providing for the adoption of decimal currency with dollar equivalent to the American dollar, and from January 1, 1858, the accounts of the province of Canada were kept in terms of dollars. The use of the dollar as a monetary unit was extended throughout the Dominion by the Uniform Currency Act of

The Canadian gold dollar weighs 25.8 grains, nine-tenths fine gold, and thus contains 23.22 grains of gold. Five-dollar and ten-dollar Canadian gold pieces have been coined

at the Royal Canadian Mint, 1 at Ottawa, to a limited extent but, in the main, the currency of Canada is in the form of silver, nickel and bronze token currency for fractional parts of a dollar and Dominion notes and bank notes for multiples of a dollar.

Dominion Notes.—Under the Dominion Notes Act, 1914, the Dominion Government is authorized to issue notes up to \$50,000,000 against a gold reserve of \$12,500,000. In 1915 the Government was authorized to issue notes up to \$26,000,000 against \$16,000,000 of specified securities guaranteed by the Government but without any gold reserve. Notes may be issued to any amount above this total of \$76,000,000, but ordinarily an amount of gold equal to the excess must be held. Canadian gold reserves consist of a combination of bullion, Canadian, United Kingdom and United States coin. The issue of Dominion notes in one-dollar, two-dollar, four-dollar, five-dollar and fractional units, also in larger notes of from fifty to five thousand dollars (and in late years fifty thousand dollars) increased very rapidly during the war period, reaching a maximum in June, 1919, when notes to the value of \$300,750,000 were in circulation. There has since been a considerable decline corresponding to the reduction in prices, and the notes in circulation at Oct. 31, 1933, were \$174,945,973. About 66 p.c. of these Dominion notes were in the hands of the banks as reserves. Dominion notes are legal tender everywhere in Canada except at the offices

¹The administration of the Mint, formerly known as the Canadian Branch of the Royal Mint, was taken over by the Canadian Government, as from Dec. 1, 1931.

which the Government maintains for their redemption. During the war period this redemption was suspended but gold payment was resumed on July 1, 1926.

After the sympathetic decline of the Canadian dollar on the gold exchanges, following the suspension of gold payment by the United Kingdom on Sept. 21, 1931, the Government permitted the export of gold only under licences issued by the Department of Finance, thus conserving the gold resources of the nation for meeting external obligations. The effect of this was to cause Canadian mines to dispose of their gold through the Royal Canadian Mint and conditions of purchase of such raw gold had to be laid down. At present these conditions of purchase are: Such deposits of newly mined gold containing not less than 50 ounces fine are paid for, on completion of assay, at the London price of gold on the day of deposit (or the latest London price of gold) converted into the Canadian equivalent at the rate of exchange reported to the Department of Finance at 11.00 a.m. on the day of deposit. A deduction of \$1 per ounce fine is made as the assay charge. Provision is also made for receiving deposits of less than 50 ounces fine under a deferred settlement plan authorized on April 27, 1933.

Bank Notes.—Canadians early became accustomed to the free circulation of paper money, and practically all Canadian banks at their beginning have made the issue of bank notes their chief means of earning profits.

Under the Bank Act the banks may issue notes of the denominations of \$5 and multiples thereof to the amount of their paid-up capital, but during the period of crop movement an "excess" circulation is permitted to the extent of 15 p.c. of their combined capital and reserve fund, provided the banks pay 5 p.c. interest on such excess circulation. In case of insolvency, bank notes are a first lien on assets and for over forty years no note holder has lost a dollar. In normal times they are not legal tender. The circulation of bank notes has proceeded on somewhat parallel lines with that of Dominion notes, as is shown by the following table:—

Note Circulation 1870-1933

Year	Dominion Note Circulation (averages for the year)	Bank Note Circulation (averages for the year)	Year	Dominion Note Circulation (averages for the year)	Bank Note Circulation (averages for the year)
	\$	\$		\$	\$
1870. 1880. 1890. 1900. 1910. 1915. 1920.	7,294,1031 13,403,9581 15,501,360 26,550,465 89,628,569 159,080,607 305,806,288	15, 149, 031 22, 529, 623 32, 834, 511 46, 574, 780 82, 120, 303 105, 137, 092 288, 800, 379	1927 1928 1929 1930 1931 1932 1933 ²	184,898,003 201,171,816 204,381,409 174,616,019 153,079,362 165,878,510 147,933,691	172,100,763 176,716,979 178,291,030 159,341,085 141,969,350 132,165,942 103,675,133

¹ Circulation on June 30. ² Averages for ten months.

Banking.—The Canadian Banking System, which may be described as "a decentralized system of relatively large joint stock, commercial and industrial banks, privately owned and managed, but working under a uniform law and subject to the supervision of the Dominion Government.



One of the most important and closely guarded processes in connection with the making of bank notes and Dominion currency is the careful engraving of the steel plates by hand. The illustration shows a master craftsman at work.

Photo, courtesy Canadian Bank
Note Company, Ottawa.

with the banks kept in competition with each other by the power to organize branches freely", is quite unlike that existing in England and most European countries, where a strong central bank stands in close relation to the Government Treasury. and unlike that of the United States where a system of regional centralization prevails. The Canadian Banking System is a product of evolution. having grown gradually with changes made from time to time as experience Its most distinctive feature, the branch bank system, is well adapted to the needs of a country of wide area and small population, especially to the requirements of the grain and cattle trade of the west, since it forms within itself a ready method

of shifting funds from one part of the country to another and from one industry to another as the occasion may demand and ensures fairly uniform rates over wide areas. The number of chartered banks which was 36 in 1881, and 34 in 1901, decreased to 25 in 1913, and is now only 10. This lessening of the number of banks has been accompanied by a great increase in the number of branches. In 1868 there were only 123 branch banks in Canada. In 1902 the number had grown to 747, in 1916 to 3,198, and at the beginning of 1933 to 3,319. From 1867 to October, 1933, the total assets have grown from \$78,000,000 to \$2,868,665,918.

In recent years the banks of Canada have extended their business outside of the country itself and at the beginning of 1933 had among them 161 branches in foreign countries, mainly in Newfoundland, the British and foreign West Indies, Central and South America, and in the great centres of international finance, London, Paris and New York.

The number of branches, assets, liabilities, loans and deposits of the Canadian chartered banks as at Oct. 31, 1933, by banks, together with totals (yearly averages) for 1900, 1910, 1920, 1930, 1931, 1932 and 1933, are shown in the table below:—

Statistics of Individual Chartered Banks as at Oct. 31, 1933, with totals 1900-33

Bank	Branch- es in Canada and Abroad	Total Assets	Liabilities to Share-holders	Liabil:- ties to the	Total Liabili- ties	Loans and Dis- counts	De- posits by the Public
	No.	\$ 000,000	\$ 000,000	\$ 000,000	\$ 000,000	\$ 000,000	\$ 000,000
Bank of Montreal Bank of Nova Scotia. Bank of Toronto. Banque Provinciale du Canada Canadian Bank of Commerce Royal Bank of Canada. Dominion Bank Banque Canadienne Nationale. Imperial Bank of Canada. Barclay's Bank (Canada).	573 322 180 138 682 829 135 250 208	769 269 120 46 566 709 120 126 135	74 36 15 5 60 70 16 14 15 1	693 232 104 40 501 636 103 111 119 8	767 268 119 46 561 705 119 125 134	296 130 54 20 292 401 68 66 75	635 207 93 35 445 566 86 98 105
Totals, Jan. to Oct. 19333 Totals, 19323 Totals, 19313 Totals, 19303 Totals, 19203 Totals, 19103 Totals, 19003	3,598 4,876	2,869 2,869 3,066 3,237 3,064 1,211 460	306 307 307 305 252 179 98	2,547 2,546 2,742 2,910 2,784 1,019 356	2,853 2,853 3,048 3,215 3,036 1,198 454	1,404 1,583 1,764 2,065 1,935 870 279	2,274 2,257 2,423 2,517 2,438 910 305

¹Barclay's Bank commenced operations in Canada in September, 1929.

*1911. *Totals are averages from the respective monthly statements, except in the case of the numbers of branches in Canada and abroad which are as at Dec. 31.

Through the operation of the clearing houses, a record of inter-bank transactions has been maintained since 1889, which forms a valuable indication of the trend of business. The clearings at Montreal, the commercial metropolis of Canada, were \$454 millions in 1889, reached \$1,098 millions in 1902, \$2,088 millions in 1910, \$7,109 millions in 1920, \$8,279 millions in 1929 but dropped to \$5,773 millions for 1931 and \$3,972 millions for 1932. This, however, does not tell the whole story, since numerous transactions between persons who carry their accounts in the same bank are not recorded in bank clearings; also, every amalgamation of banks lessens, in so far, the volume of clearings. Accordingly, a record of cheques debited to accounts at all branches at clearing-house centres was instituted in 1924; between that date and 1929 Montreal bank debits increased from \$7,502 millions to \$15,558 millions, and the grand total of bank debits for Canada from \$27,157 millions to \$46,670 millions. Since 1929 there has been a steady decline to the 1932 levels of \$7,136 millions for Montreal and \$25,844 millions for Canada.

Bank Clearings and Bank Debits, 1924-32 and, by Months, October 1932 to October 1933

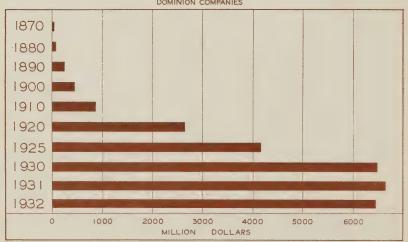
Year	Exchanges of the Clearing Houses of Chartered Banks in Canada	Bank Debits to Individual Accounts	Year	Exchanges of the Clearing Houses of Chartered Banks in Canada	Bank Debits to Individual Accounts
	\$000,000	\$000,000		\$000,000	\$000,000
1924 1925 1926 1927 1927 1928 1929 1930 1931	16,762 17,715 20,568 24,555 25,105 20,092 16,828 12,914	27, 157 28, 126 30, 358 36, 094 43, 477 46, 670 37, 491 31, 586 25, 844	1933 — January. February March April May June July August September	1,365 $1,232$	1,969 1,830 1,887 1,877 2,650 2,982 3,528 2,649 2,457 2,823
October November December		2,367 2,466 2,085	October November December		2,823 2,837

Insurance

Life Insurance.—The life insurance business was introduced into Canada by companies from the British Isles and the United States about the middle of the nineteenth century. By 1875 there were at least 26 companies and possibly several more, competing for the available business in Canada, as against 43 active companies registered by the Dominion and a few provincial companies in 1932. Of the 43 companies registered by the Dominion 28 were Canadian, 6 British and 9 foreign.

LIFE INSURANCE IN FORCE IN CANADA 1870 - 1932





The development of life insurance in Canada, as in other English-speaking countries at least, has been marked by an increased service to the individual policyholder. The benefits which may now be obtained under a life insurance policy are calculated to meet the needs of the policyholder and of his dependants, whether in event of old age or in event of death or of disability. In 1919 there was introduced what is known as "group insurance", a plan whereby a group of persons, usually employees, are insured by their employer, for a uniform amount or a varying amount determined by a formula, under one policy, generally on the term plan, the employer paying the premium or a substantial part thereof. Each employee usually has the right to obtain an individual policy at ordinary normal rates, without medical examination, on termination of employment.

The table below shows the growth of life insurance month by month in recent years. The statistics are not complete but represent approximately 85 p.c. of the total business transacted in Canada.

Sales of Life Insurance in Canada by Months, 1931-33

Note.—The figures in this table are those published by the Hartford Research Bureau except that the totals for Newfoundland, included therein, have been deducted.

Month	1931	1932	1933	Month	1931	1932	1933
January	\$000 40,816 39,925 46,694 45,345 40 983 45 830	\$000 37,082 38,857 37,206 33,425 30,779 40,744	29,624 30,215	July	\$000 39,603 35,438 29,833 35,722 38,615 46,951	\$000 34,226 28 124 25,023 29,657 33,739 33,249	\$000 . 29,998 27,082 25,142 31,253 33,896

As a result of the adaptation of life insurance policies to the needs of the public, and of the growing wealth of the community, the increase in the amount of life insurance in force has been remarkable. In 1869 the total life insurance in force in Canada by Dominion companies was only \$35.680,000 as compared with \$6,472,000,000 approximately at the end of 1932. This latter figure was equal to \$616 per head of population. In addition there was \$176,000,000 of fraternal insurance transacted by Dominion licensees and \$178,120,314 of insurance transacted by provincial licensees. Thus the total life insurance in force in the Dominion at the end of 1932 was \$6,826,000,000 approximately. The increase in the premium income from Canadian business of all Dominion registered companies (not including fraternal benefit societies) was from \$90,000,000 in 1920 to \$221,000,000 in 1930 but decreased to \$216,000,000 in 1932.

Fire Insurance.—Fire insurance in Canada began with the establishment by British fire insurance companies of agencies, usually situated in the sea ports and operated by local merchants. The oldest existing agency of a British company is that of the Phœnix Fire Office of London, now the Phœnix Assurance Co., Ltd., which commenced business in Montreal in 1804.

The Halifax Fire Insurance Co. is the first purely Canadian company of which any record is obtainable. Founded in 1809 as the Nova Scotia Fire Association, it was chartered in 1819 and operated in the province of Nova Scotia until 1919, when it was granted a Dominion licence.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1932, shows that at that date there were 240 fire insurance companies doing business in Canada under Dominion licences, of which 50 were Canadian, 66 were British and 124 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British and 3 United States. The proportionate increase in the number of British and foreign companies from 59 to 79 p.c. of the total number is a very marked point of difference between the fire and life insurance businesses in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which statistics are available) in the fire insurance in force, is no doubt partly due to the growth of the practice of insurance, but it is also important as an indication of the growth of the value of insurable property in the country, and thus throws light upon the expansion of the national wealth of Canada. By 1880 companies with Dominion licences had fire insurance in force totalling \$411,563,271; by 1900 the one billion dollar mark had about been reached and by 1930 the total stood at \$9,672,997,000. At the end of 1932, besides \$9,301,748,000 of fire insurance in force in companies with Dominion licences, there were also \$1,284,061,000 in force in companies with provincial licences, or about \$10,586,000,000 in force with companies, associations, or underwriters licensed to transact business in Canada.

Miscellaneous Insurance.—Miscellaneous insurance now includes among other classes in Canada: accident, sickness, automobile, burglary, explosion, forgery, credit, guarantee, hail, inland transportation, employers' liability aviation, plate glass, sprinkler-leakage, steam boiler, title, tornado and livestock insurance, etc. Whereas in 1880, 18 companies were licensed for business of this kind, such insurance was sold in 1932 by 247 companies, of which 49 were Canadian, 60 British and 138 foreign.

The total net premium income for 1932 was \$28,893,000 and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased during the past twenty years, although a decrease has been shown in recent years. As recently as 1910, the premium income of companies doing an automobile insurance business was only \$80,446; in 1915 it was \$636,085, and in 1932 \$14,466,618. The premium income of personal accident insurance came second with \$2,918,000. Combined accident and sickness insurance was third in 1932 with a premium income of \$1,636,395. The premium income of all accident and sickness insurance combined totalled \$7,820,000 in 1932.

Loan and Trust Companies

The principal function of loan companies is the lending of funds on first mortgage security, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies operating under provincial charters, the majority conduct loan, savings and mortgage business, generally in the more prosperous farming communities.

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of \$2,110,403 and deposits of \$577,299. Rapid increases in the number of companies and total volume of business resulted from subsequent legislation. In 1899, 102 companies made returns, showing capital stock paid up of \$47,337,544, reserve funds of \$9,923,728 and deposits of \$19,466,676; total liabilities had increased from \$3,233,985 to \$148,143,496 between 1867 and 1899. After slight decreases in the number of loan companies in operation through amalgamations and absorptions, shortly after the turn of the century, further growth was recorded. As a result of the revision of the laws relating to loan and trust companies in 1914, statistics of provincially incorporated loan and trust companies ceased to be collected, but of late years these have made voluntary returns so that all-Canadian totals are again available.

The paid-up capital stock of all loan companies at the end of 1932 was \$51,255,922 (Dominion companies, \$19,506,063, and provincial companies, \$31,749,859); reserve funds, \$45,506,026 (Dominion companies, \$14,739,177, and provincial companies, \$30,766,849); liabilities to the public \$163,966,053 (Dominion companies, \$107,757,261, and provincial companies, \$56,208,792); and liabilities to shareholders, \$101,884,634 (Dominion companies, \$35,803,526, and provincial companies, \$66,081,108).

Trust companies act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minors or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy. Some companies receive deposits but the lending of actual trust funds is restricted by law.

Trust companies are principally provincial institutions, since their original main functions were connected with probate, which lies within the sole jurisdiction of the provinces.

The aggregate total assets of the trust companies of Canada at the end of 1932 were \$2,506,260,979 as compared with \$805,000,000 in 1922 (the earliest year for which figures are available). The bulk of these assets (\$2,281,001,620 in 1932) was represented by estates, trusts and agency funds. The assets of Dominion companies in 1932 amounted to \$259,565,095 and of provincial companies to \$2,246,695,884.

Miscellaneous

Interest Rates.—There does not exist in Canada as yet a market for money in the same sense as in great financial centres such as London and New York. Nevertheless the trend of money rates in the Dominion can be measured. Since about the beginning of the century the province of Ontario, the wealthiest and most populous of the provinces of the Dominion, has done its financing largely in Canada, hence the fluctuation in the rate of yield of Province of Ontario bonds is an excellent long-term indicator of net interest rates in the Dominion. Fluctuations in the yield of Ontario bonds for the past seven years are shown as follows:—

Yield of Province of Ontario Bonds by Months, 1927-33

Month	1927	1928	1929	1930	1931	1932	1933
January February March April May June July August September Ootober November December	p.c. 4.65 4.65 4.60 4.55 4.55 4.55 4.55 4.55 4.55 4.55	p.c. 4·30 4·20 4·25 4·25 4·35 4·40 4·50 4·60 4·55 4·55 4·60	p.c. 4.65 4.70 4.85 4.95 5.00 4.95 4.90 5.00 4.95 4.95 4.95	p.c. 4.90 4.85 4.85 4.85 4.83 4.80 4.60 4.45 4.50	p.c. 4·55 4·55 4·45 4·45 4·40 4·40 4·45 4·40 4·65 5·20	p.c. 5.74 5.55 5.30 5.33 5.42 5.48 5.30 4.95 4.88 4.70 4.90 4.92	p.c. 4·75 4·73 4·79 4·85 4·63 4·55 4·59 4·53 4·66

Sales of Canadian Bonds.—Sales of Canadian bonds of all classes, but more especially railway and corporation bonds because of the falling-off in production and the uncertainties of the industrial outlook, showed a decided decline from 1931. The influence of Dominion Government financing operations by conversion loans is seen in the 1931 figure for government and municipal bonds which reached an abnormally high level. With this exception, the sales of government and municipal bonds were higher for 1932 than for any year covered in the table following.

The great increase in wealth during and immediately following the War enabled a much greater proportion of public and industrial financing to be done at home. Whereas before the War much of the capital required for Canadian development was drawn from the United Kingdom and the United States, since 1914 more than 60 p.c. of the total issues of Canadian bonds have been sold within Canada; the percentage so sold in 1932 was about 80. The proportion sold in the United Kingdom has increased substantially for 1932. The following table shows the total bond sales, the distribution of sales and the classes of bonds in Canada for the seven-year period 1926-32.

Sales of Canadian Bonds, 1926-32

	Class of	Bonds	Dist	ribution of S	ales	
Year	Govern- ment and Municipal	Railway and Cor- portion	Sold in Canada	Sold in United States	Sold in the United Kingdom	Total
1926. 1927. 1928. 1929. 1930. 1931. 1931.	\$ 246,653,461 232,537,614 120,113,088 218,628,309 409,652,063 1,069,638,571 450,067,632	333,479,000 442,530,600 357,573,000 181,182,000	373,637,014 278,080,088	\$ 259,209,943 223,714,000 159,512,000 263,654,000 393,632,000 155,920,000 81,015,000	4,866,667 16,000,000 19,109,000 4,745,000 4,100,000	602,217,681 453,592,088 661,158,909

Commercial Failures.—The total of commercial failures in Canada for 1933 (ten months) as reported to the Dominion Bureau of Statistics under the provisions of the Bankruptcy and Winding-up Acts was 1,729 as compared with 2,420 for the entire twelve months in 1932, 2,216 in 1931, 2,402 in 1930, and 2,167 in 1929.

The following tables give, for the above five years, the distribution of failures, by provinces and by industrial and commercial groups:—

Number of Commercial Failures, by Provinces, 1929-33

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1933 ¹	7	47	35	774	635	58	47	76	50	1,729
1932	9	62	80	968	889	86	91	131	104	2,420
1931	7	51	74	795	793	109	152	131	104	2,216
1930	3	61	45	1,011	776	113	146	152	95	2,402
1929	1	71	61	927	762	91	84	101	69	2,167

¹ Ten months January to October inclusive.

Number of Commercial Failures, by Groups, 1929-33

Year	Trade	Manu- fac- tures	Agri- cul- ture	Log- ging, Fish- ing	Min- ing	Con- struc- tion	Transportation and Public Utilities	Fin- ance	Ser- vice	Not Classi- fied	Total
1933 ¹	920	312	74	4	5	49	21	8	203	133	1,729
1932	1,171	468	190	9	6	83	43	7	290	153	2,420
1931	1,107	464	125	5	7	61	42	21	255	134	2,216
1930	1,204	488	115	12	9	55	48	29	283	159	2,402
1929	1,100	443	125	4	11	61	21	5	239	158	2,167

¹ Ten months January to October inclusive.

The chief branches of business to be affected by failure are trade, manufacturing, and service and for the first ten months of 1933 these three groups accounted for 82·9 p.c. of all failures. In that period the estimated grand total of assets of all the concerns which failed was \$23,755,399 against estimated liabilities of \$28,669,253. For the same months of the previous year estimated assets were \$32,081,964 and estimated liabilities \$34,506,706.

It will be seen, therefore, that the average margin between liabilities and assets of commercial failures during the first ten months of 1932 and 1933 has widened, the average liabilities of each failure having decreased from \$17,297 to \$16,581, though the average assets have dropped from \$16,582 to \$13,739.

The decidedly hopeful sign indicated by the figures is that total commercial failures for the first ten months of 1933 have shown a decrease of 266 or about 13 p.c. compared with the same months of 1932 and were at a lower level in 1933 than they have been for the same ten months in any year since 1928.

CHAPTER XVIII

LABOUR

Dominion Department of Labour.—Accompanying the steady progress of labour organization, Canada has provided on an increasing scale for governmental consideration of labour problems. The Dominion Department of Labour was established in 1900. Its duties are to aid in the prevention and settlement of labour disputes, to collect and disseminate information relative to labour conditions, to administer the Government's fair-wages policy and in general to deal with problems involving the interests of workers. Under the first mentioned of these functions, the Industrial Disputes Investigation Act, originated in 1907 for the settlement of trade disputes, has attracted favourable comment throughout the world; up to March 31, 1932, 772 threatened disputes have been referred under it and in all but some 38 cases an open break has been averted. A monthly Labour Gazette has, since 1900, provided a comprehensive survey of labour conditions in Canada, and is supplemented by various special publications dealing with wages, labour organizations, labour laws, etc. The Department more recently has established also the "Employment Service of Canada" which is concerned particularly with problems relating to employment; it also administers the Technical Education Act, the Government Annuities Act, the Old Age Pensions Act and the Combines Investigation Act—the latter being a measure aimed at combinations in restraint of trade. In addition, the Department acts generally as the representative in Canada of the International Labour Office of the League of Nations, Canada as one of the eight states of "chief industrial importance" having a place on the Governing Body of that Office.

Provincial Departments and Bureaus of Labour.—In several of the provinces likewise, namely, in Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia, Departments or Bureaus of Labour have been set up. Under these are administered an increasing body of legislation of various kinds ("civil rights" pertaining to the provinces under the B.N.A. Act) in the form of factories, shops and mines Acts, workmen's compensation Acts (most of the provinces having special boards for the administration of the latter legislation), laws for the protection of women and children in industry, mechanics' lien Acts and other legislation for the fixing and safe-guarding of wages. The growth of this body of legislation is one of the most outstanding features of the social progress of Canada in the present century.

The Labour Movement

In Canada, trade unionism has been an outgrowth of the last half century, resulting from the increase in urban population and the development of a diversified industrial life. The majority of our local trade unions are branches of international craft organizations which usually have their headquarters in the United States, but in recent years there has been in evidence a movement for the establishment of national unions; prominent among these are the Canadian Central Labour Organizations and the National Catholic Unions.

During 1932, there were in existence in Canada 1,868 international locals having 176,087 members, and 857 non-international unions with a membership of 107,489. The total number of organized workers reported to the Department of Labour was therefore 283,576, compared with 310,544 in 1931. Of the latter number, 188,219 unionists belonged to international craft organizations, while 122,325 were members of the national unions. The oldest federated labour organization in the Dominion is the Trades and Labour Congress, established in 1873, which is the recognized head of the internationally organized workers in Canada and their representative in dealing with legislative matters. The All-Canadian Congress of Labour came into existence at a meeting of national union representatives held in Montreal in 1927. The object of the Congress is to promote the interests of its affiliated organizations and to strive to improve the economic and social conditions of the workers. The Catholic union movement in Canada dates from 1901, when it had its inception in Quebec city. Subsequently, other national unions were formed in the province of Quebec.

With the growth of the Catholic union movement in Canada, which has been steady, there developed the desire for a central organization to direct and co-ordinate the activities of the various units, which resulted, during 1921, in the formation of the Federation of Catholic Workers of Canada. The plan of organization adopted is similar to the non-sectarian trade unions. Although this movement was originally designed exclusively for Roman Catholics, provision has been made for the admission of non-Catholics as associate members who may vote, but cannot hold office.

Industrial Disputes.—During 1931, the loss to industry and to workers through industrial disputes was greater than in 1930 or 1929, although the number of workers involved was smaller than in any other year since 1901 except 1914. There were 88 disputes, involving 10,738 workers and a time loss of 204,238 working days, compared with 67 disputes involving 13,768 workers and 91,797 working days in 1930. This was the minimum loss in working days since the record was commenced, while the maximum time loss was 3,400,942 in 1919, when 148,915 workers were involved. During the twelve months of 1932, there were 92 disputes involving 19,811 workers and 300,687 working days (preliminary figures).

Labour in Politics.—The proposal that labour take independent political action to secure direct representation in the legislatures of the country was first proposed in 1887, when the Trades and Labour Congress of Canada, at a meeting in Hamilton, Ontario, adopted a resolution to this effect. Labour members were occasionally elected to the provincial and the Dominion Parliaments, but in spite of much discussion on the matter, no definite policy was followed by labour for some years. The executive council of the Trades and Labour Congress therefore suggested at the 1917 convention that a labour party should be organized along the lines of the British party. This proposal was adopted, and in 1921 the Canadian Labour Party was formed in Winnipeg. For a few years, the party endeavoured to co-ordinate the various labour political parties, but since 1927 the main organization has ceased to function, although two sections, those in Quebec and Alberta, are still in existence. British Columbia. Manitoba and Ontario have Independent Labour Parties, while in some of the other provinces, there are labour political organizations operating under different names.

In 1929, delegates representing labour political parties of the four western provinces met in Regina and formed an organization under the name of "The Western Conference of Labour Political Parties" with a view to unifying the political policy of labour west of the Great Lakes.

Annual meetings have since been held.

In the Dominion elections held in July, 1930, 12 straight labour candidates appeared; there were also ten Communist nominees and two Farmer-Labour candidates. Three nominees of labour political parties were elected, two in Winnipeg and one in Vancouver, while at a by-election held in August, 1931, to fill a vacancy in East Hamilton, Ont., the labour candidate was elected to Parliament.

The present Minister of Labour is the Hon. Wesley A. Gordon, under whose administration the 1932 unemployment relief measures

of the Government are being carried out. (See p. 171.)

Co-operative Associations

Co-operative Associations in Canada numbered 1,132 in 1931, with a total membership of 756,420. In 1930, there were 1,095 of these organizations which reported 690,685 members. This type of organization includes productive, marketing, credit and savings, community hall, and miscellaneous societies; in some cases, production and marketing are jointly carried on. Important among the Co-operative Associations are the Grain Growers of the Prairies, which are the largest co-operative organizations in Canada. It is interesting to note that the Association Opposing Compulsory Pool was formed in 1931 as a co-operative society to combat the 100 p.c. Wheat Pool in Saskatchewan, and had a reported membership of 150,000; the functions of this organization are partly educational. Numerically the strongest co-operative associations are those engaged primarily in marketing, there being, in 1931, 333 of such societies with a total membership of 344,884.

In the province of Quebec, great success has been achieved by the organization of "People's Banks" for the providing of short-term credit for small farmers and industrial workers; 174 such banks were in operation in 1931, their membership numbering 43,207, and their loans amounting to \$2.998.046, on which the profits realized amounted to \$594,235.

In Ontario, there are three Co-operative Credit Societies, one of which was formed in Toronto, in 1931, by the Amalgamated Clothing Workers of that city. In the category of credit and savings organizations, there is also the Alberta Provincial Association of Credit Societies, a body with 41 local societies operating under the provisions of the Co-operative Credit Act of the province. One of the functions of this organization is to act as intermediary between the members of affiliated societies and the department in charge of the Act.

Employment, 1932 and 1933

The importance of current statistics on employment has for some years been recognized in Canada, and a monthly record of the number on the payrolls of firms having 15 or more employees has been maintained since 1920. The inquiry includes all industries except agriculture, fishing, hunting, professional and highly specialized business undertakings such as banking, insurance, etc. The chart on p. 168 shows the trend of employment during the last seven years.

During the twelve months of 1933, some 8,100 employers reported to the Dominion Bureau of Statistics an average working force of 768,628 persons. Monthly index numbers, based on the 1926 average as 100, are calculated from these returns from employers; in the twelve months of 1933, the general index averaged 83.4, compared with 87.5, 102.5, 113.4 and 119.0 in the same months of 1932, 1931, 1930 and 1929 respectively. Employment on the average was therefore less than in the preceding year, but there was a very important difference in the situation, viz., that with only two interruptions the trend in 1932 was downward, while in 1933 the movement since April 1 has been consistently upward. Thus, the 1932 index declined from 91.6 on Jan. 1 to 83.2 on Dec. 1, or by 9.2 p.c.; on the contrary, the 1933 index, after falling from 78.5 on Jan. 1 to 76.0 on April 1, then rose steadily to 91.8 at the beginning of December. This was an increase of 16.9 p.c., while as compared with the same month in the preceding year, the index on Dec. 1, 1933, was also higher by 10.3 p.c. A feature of the situation in the last few years has been the considerable amount of employment afforded by public authorities in combating the agricultural and industrial depression; the activities carried on under the Unemployment Relief Acts passed since 1930 are briefly analysed at pages 171-2.

Index Numbers of Employment as Reported by Employers, by Economic Areas, as at the first of each month, November, 1932, to December, 1933, with Yearly Averages since 1921.

Note.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated economic area to the total reported by all employers making returns in Canada on December 1, 1933.

Year and Month	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
1921—Averages 1922—Averages 1923—Averages 1924—Averages 1925—Averages 1926—Averages 1927—Averages 1928—Averages 1929—Averages 1930—Averages 1931—Averages	102·4 97·3 105·7 96·6 97·0 99·4 103·7 106·6 114·8 118·3 108·1	82-2 81-4 90-7 91-3 91-7 99-4 104-0 108-3 113-4 110-3 100-9	90·6 92·8 99·5 95·5 95·8 99·6 105·6 113·5 123·1 114·6 101·2	94·0 92·6 94·8 92·1 92·0 99·5 105·3 117·3 117·1 111·5	81·1 82·8 87·4 89·4 93·7 100·2 101·1 106·4 111·5 107·9 95·5	88·8 89·0 95·8 93·4 93·6 99·6 104·6 111·6 119·0 113·4 102·5
1932— Nov. 1 Dec. 1 Averages, 12 months	86·8 83·8 92·2	83 · 6 82 · 9 85 · 5	84·2 84·1 88·7	91·6 86·7 90·0	77·8 73·8 80·5	84·7 83·2 87·5
1933— Jan. 1. Feb. 1. Mar. 1. April 1. May 1. June 1. July 1. Aug. 1. Sept. 1. Oct. 1. Nov. 1. Dec. 1. Averages, 12 months Relative Weight by	80·3 82·8 89·9 93·0 91·5 90·9 90·2 93·4 85·3	77.8 75.7 74.1 73.1 75.4 79.3 83.0 84.8 87.0 89.1 92.2 92.4 82.0	78.8 78.9 79.8 79.3 79.5 81.6 85.0 86.6 88.1 89.6 91.4 93.3 84.2	84·4 80·4 80·0 78·3 79·2 82·7 85·0 90·5 90·7 98·7 94·6 89·3 86·2	69·7 68·0 67·7 68·8 72·2 76·2 81·8 87·3 89·2 85·6 84·0 85·4	78·5 77·0 76·9 76·0 77·6 80·7 84·5 87·1 88·5 90·4 91·3 91·8 83·4
Economic Areas as at Dec. 1, 1933	7.7	29.4	41.5	13.2	8.2	100.0

¹The average for the calendar year 1926, including figures up to Dec. 31, 1926, being the base used in computing these indexes, the average index here given for the 12 months Jan. 1-Dec. 1, 1926, generally shows a slight variation from 100.



Employment by Economic Areas.—The accompanying table shows the recent trend of employment in each of the five economic areas of Canada. British Columbia, though still relatively low, has experienced the greatest improvement during the past year.

Employment in Leading Cities.—Monthly statements are compiled for eight of the leading industrial centres in the Dominion, namely, Mont-



A Canadian Textile Plant.—The efficiency of Canadian manufacturing plants is due in no small measure to the conditions under which employees work.

Photo, courtesy Department of the Interior.

real, Quebec city, Toronto, Ottawa, Hamilton, Windsor and the adjacent Border Cities, Winnipeg and Vancouver. Employment in all these centres was higher at the end than at the beginning of 1933, while in Toronto, Ottawa, Hamilton, Windsor and the adjacent Border Cities and Winnipeg, the indexes at the close of the year were higher than on Dec. 1, 1932. On the average, however, activity in the eight leading cities was less than in the preceding year. During the last few years, certain works undertaken for the relief of unemployment have been important factors in the employment situation in the municipalities.

Employment by Industries.—An analysis of the data by industries shows that in 1933, as in 1932, there was a higher level of employment in trade and services than in the other groups included in the survey. The indexes in all divisions except logging averaged lower than in 1932, but in the latter part of 1933 the situation in practically all divisions was generally better than in either the first few months of the same year, or the same months of the preceding year. Logging was decidedly more active, the index averaging 66·5 in 1933, compared with 42·6 in 1932 and 60·1 in 1931. In manufactures, the index, at 84·4 on Dec. 1, 1933, was

Index Numbers of Employment as Reported by Employers, by Industries, as at the first of each month, November, 1932, to December 1933, with Yearly Averages since 1921.

Year and Month	Manu- factur- ing	Log- ging	Mining	Com- muni- cations	Trans- porta- tion	Con- struc- tion and Main- tenance	Ser- vice	Trade	All Indus- tries
1921—Averages. 1922—Averages. 1923—Averages. 1924—Averages. 1925—Averages. 1926—Averages. 1927—Averages. 1928—Averages. 1929—Averages. 1930—Averages.	87.7 88.3 96.6 92.4 93.0 99.6 103.4 110.1 117.1 108.9 95.3	103·0 85·1 114·2 116·7 105·4 99·5 109·3 114·5 125·8 108·0 60·1	98·0 99·5 106·2 105·3 99·8 99·7 107·0 114·4 120·1 117·8	90·2 86·4 87·6 93·7 95·5 99·6 103·8 108·2 120·6 119·8	94·1 97·8 100·3 99·1 96·6 99·7 102·5 105·9 109·7 104·6 95·8	71·1 76·7 80·9 80·3 84·9 99·2 109·0 118·8 129·7 129·8	83·6 81·9 87·9 93·8 95·4 99·5 106·2 118·1 131·6 124·7	92.7 90.8 92.1 92.5 95.1 99.2 107.4 116.1 126.2 127.7	88 · 8 89 · 0 95 · 8 93 · 4 93 · 6 99 · 6 111 · 6 119 · 0 113 · 4
1932— Nov. 1 Dec. 1 Averages— 12 months.	81·7 80·3	37·9 56·2	101·2 99·9	89·6 89·3	84·5 83·9	77·9 67·6	106.5 103.7	123 · 6 115 · 4 117 · 8	102·5 84·7 83·2
1933— Jan. 1. Feb. 1. Mar. 1. April 1. May 1. June 1. July 1. Aug. 1. Sept. 1.	74·4 75·0 75·8 76·0 76·8 80·0 83·0 85·2 86·8	74·5 67·3 57·1 35·6 35·1 40·7 49·5 48·9	96·9 94·0 94·6 91·4 89·9 91·4 93·1 97·4	87·5 85·7 85·6 84·5 83·7 83·2 84·0 83·6 83·8	78·3 75·0 74·1 74·2 78·9 79·0 80·5 81·2 82·5	58·5 56·2 56·5 54·7 60·8 67·8 78·2 88·4	102·2 104·2 102·9 102·5 99·9 106·2 111·8 113·8	110·1 119·6 109·4 107·3 107·6 108·6 109·1 111·8 110·5 111·8	87.5 78.5 77.0 76.9 76.0 77.6 80.7 84.5 87.1
Oct. 1	86.7 83.5 84.4 80.9	64.7 110.3 166.5	105 · 8 109 · 7 105 · 5	81·1 81·0 83·9	82.7 81.4 79.8	97·0 94·6 94·6	108·1 107·9 108·8	111.8 115.0 115.6 119.1	88·5 90·4 91·3 91·8
Relative Weight by Industries as at Dec. 1, 1933	49-4	2.4	5.7	2.5	11.0	13.0	2.7	10.3	100.0

See footnote to table on p. 167; also headnote.

13.4 p.c. higher than on Jan. 1, a recovery that represented an increase of over 50,000 employees in the staffs of the approximately 5,000 co-operating establishments. Mining, construction and maintenance and services showed considerable improvement during the year. In trade, employment was maintained in fair volume. Transportation was slightly more active at the end than at the beginning of 1933, while communication companies showed reductions in personnel.

Unemployment in Trade Unions.—A picture of the industrial situation from the viewpoint of organized labour is presented in the monthly reports on unemployment tabulated by the Dominion Department of Labour from leading trade unions throughout Canada. During the first ten months of 1933, 1,733 of these unions reported an average membership of 151,051, of whom 34,116 were, on the average, unemployed. This was a percentage of 22.6, as compared with 21.6 recorded in 1932. From June, 1933, onward, however, the general percentage of unemployment was lower than in the same months of 1932. The accompanying table contains percentages of unemployment among trade union members in the different provinces from October, 1932, to October, 1933, with yearly averages since 1925.

Percentages of Unemployment in Trade Unions, by Provinces, 1925-32, and by months, October, 1932, to December, 1933

Year and Month	N.S. and P.E.I.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
1925—Averages 1926—Averages 1927—Averages 1928—Averages 1929—Averages	5.4	3·6 2·1 1·9 1·2 1·6 3·7 9·2	10·9 6·8 6·8 6·1 7·7 14·0 19·3	5·5 4·2 4·1 3·5 4·3 10·4 17·2	5·1 3·6 4·4 4·2 7·1 9·6 15·7	3·3 3·0 3·2 3·0 5·3 10·6 15·6	8·4 4·9 4·1 4·2 6·4 13·3 19·4	5·7 5·5 5·5 5·1 5·9 11·6 17·6	7·0 5·1 4·9 4·5 5·7 11·1 16·8
1931—Averages 1932— Oct Nov Averages— 12 months	11·5 7·9 8·4	16·7 13·6 16·5	27·6 27·6 30·9 26·4	22·7 25·2 28·5	21·4 20·6 20·9	13·4 17·3 20·8	21·7 19·8 22·8	21·1 24·4 26·0 21·6	22·0 22·8 25·5 22·0
1933— Jan. Feb. Mar. April May.	22·7 9·2 22·7 21·3 26·6	15·6 17·1 16·4 15·1 14·2	26·9 27·5 27·3 25·7 25·0	28·7 28·8 26·8 26·5 24·9	23·6 22·0 20·3 20·9 21·0	22·7 21·8 20·5 17·5 17·9	22·7 19·8 25·3 28·1 25·9 24·5	21·6 21·9 23·8 22·6 19·5 18·6	25·5 24·3 25·1 24·5 23·8 21·8
JuneJulyAugSeptOctAverages—	12·2 12·6 11·0	13·0 11·0 11·1 10·4 9·8	26·2 26·0 22·6 24·1 25·1	23·3 22·9 21·7 20·9 20·3	19·4 19·0 17·9 19·1 19·4	14·9 15·4 14·3 13·5 13·3	23·1 22·0 19·7 16·5	18.6 17.5 19.9 21.3 21.7	21.8 21.2 19.9 19.8 19.8

Applications, Vacancies and Placements of the Employment Service of Canada.—In co-operation with the provinces, the Dominion Department of Labour maintains local employment offices in some centres throughout the Dominion. The volume of business transacted in these bureaus is to

some extent indicative of current labour conditions. Up to Nov. 30, 1933, 612,028 applications for work and 330,002 vacancies were registered, while the placements effected numbered 314,290; in the same period of 1932, the applicants numbered 602,692, the positions notified as vacant 335,143, and the placements 323,022.

Unemployment Relief

The Unemployment and Farm Relief Act, 1931.—Following the expiration of the Unemployment Relief Act, 1930, whereby the Dominion Government specified that \$20,000,000 might be expended for the granting of aid for the relief of unemployment (see Canada 1932, p. 172), the second session of the 17th Parliament enacted the Unemployment and Farm Relief Act, 1931, (see Canada 1933, p. 171). Under this Act the Dominion had contributed as at Nov. 1, 1933, for public works and other undertakings, \$31,057,000 and for direct relief, \$11,702,000. In addition to these contributions, loans and advances were made for similar purposes.

The Relief Act, 1932.—At the third session of the 17th Parliament, the Relief Act, 1932, which received Royal Assent on May 13, 1932, was enacted. Under this Act provision was made for special relief works and undertakings in the National Parks of Canada and for the continuance of the relief measures undertaken, and being carried on, in the drought-stricken area of Saskatchewan by the Saskatchewan Relief Commission, and for taking all such other measures deemed necessary.

The administration of the Act was vested in the Minister of Labour.

Agreements were completed with all the provinces except Prince Edward Island, providing for a non-recoverable expenditure of one-third of an amount not to exceed \$600 per family for the purpose of providing a measure of self-sustaining relief to families who would otherwise be in receipt of direct relief by placing such families on the land. It was provided that the remaining two-thirds of the expenditure should be contributed by the province and the municipality concerned. The agreements cover a period of two years and do not expire until March 31, 1934. The numbers of settler families and total individuals approved and settled on the land to November, 1933, was as follows: N.S., 174 and 1,098; Que., 527 and 3,285; Ont., 208 and 1,090; Man., 412 and 1,945; Sask., 487 and 2,274; Alta., 279 and 1,319; B.C., 48 and 266; totals, 2,135 and 11,277.

The Dominion Government continued to contribute to the direct relief expenditures of the provinces and municipalities on receipt of certified accounts, and also contributed 50 p.c. of the cost of operating board camps, wherein the unemployed might be cared for and useful work carried out in return for subsistence and a small cash allowance.

Agreements were entered into with the four western provinces, whereby the Dominion paid 100 p.c. of the cost of providing food, fuel, clothing and shelter to single homeless unemployed persons at a cost not exceeding 40 cents per day. The agreements also provided for the placement of single homeless unemployed persons on farms at \$5 per month payable by the Dominion.

Camps for the relief of unemployment were established by the Department of National Defence at various points throughout Canada and special relief works were carried out in the National Parks for the care of single homeless persons and unemployed residents of the parks. One of the fundamental reasons for the establishment of these camps was the far-reaching injury to the State which may result from the effect of unemployment upon those just reaching manhood who are faced with idleness and uncertainty. It was with a view of preserving the morale and efficiency of this class of needy persons that this provision was made, and not with any idea of giving permanent employment to young men. The purpose was to maintain their health and efficiency until such time as they could be absorbed into the natural channels of industry. The establishment authorized in these camps as at Nov. 15, was 28,702 and the actual personnel in the camps numbered 18,427.

At Nov. 1, 1933, disbursements by the Dominion for direct relief amounted to \$17,616,800, and \$1,447,345 additional was contributed for the care of single homeless unemployed persons in the four western provinces. For relief settlement the Dominion contribution amounted to \$177,316, and for other relief projects the Dominion disbursements were \$5,175,925.

The cost of administration was \$67,576.

The Relief Act, 1933.—At the fourth session of the 17th Parliament, the Relief Act, 1933, which received Royal Assent on Mar. 30, 1933, was expected.

Under this Act, the Governor in Council may: provide for special relief works and undertakings in the National Parks of Canada and elsewhere; assist in defraying the cost of the sale and distribution of the products of field, farm, forest, sea, river and mine; take all such other measures as may be deemed necessary or advisable for carrying out the provisions of this Act.

The administration of the Act is vested in the Minister of Labour.

Under this Statute, agreements have been completed between the Dominion and the provinces whereby the Dominion continues to contribute to the expenditures of the provinces for direct relief, the contribution to organized municipalities being 33½ p.c. with equal contributions from each province and municipality concerned. In the case of unorganized territory the Dominion Government is continuing to pay 50 p.c. of the provincial expenditures for direct relief. In the four western provinces the Dominion is continuing to contribute to the care of homeless unemployed persons, the contribution of the Dominion being 20 cents per day per individual cared for in camps and urban centres, and \$5 per month for each individual placed on a farm.

Under the agreements contributions are also to be made by the Dominion for approved work in connection with the construction of the Trans-Canada Highway and also for provincial roads and undertakings and work carried out by municipalities. Relief works in the National Parks are being continued as well as the projects inaugurated by the Department of National Defence under the Relief Act, 1932, and arrange-

ments made for additional projects.

Total disbursements made by the Dominion under the Relief Act, 1933, as at Nov. 1, 1933, were \$9,297,341, of which \$6,242,596 was expended for direct relief and \$925,203 was contributed for the care of homeless persons in the four western provinces. The amount disbursed in connection with Dominion operated relief projects was \$1,735,368.

Old Age Pensions

The Old Age Pensions Act, 1927.—The Act is administered by the Department of Labour and makes provision for the establishment of a Dominion-Provincial pensions system to be effective in such provinces as have enacted and given effect to special legislation for this purpose. To this end arrangements are made for the payment, to such a province, quarterly, of 75 p.c.¹ of the net cost of old age pensions. The provinces now operating under such agreements are: B.C., Alta., Sask., Man., Ont., and P.E.I. The following table gives the payments made under the Act and the numbers of pensioners, by provinces, as at Sept. 30, 1933.

Summary of Old Age Pensions in Canada, as at September 30, 1933, by Provinces, with date effective in each case

Item	Alberta Aug. 1, 1929	B.C. Sept. 1, 1927	Manitoba Sept. 1, 1928	Ontario Nov. 1, 1929	Sask. May 1, 1928	P.E.I. July 1, 1933	N.W.T. Jan. 25, 1929	Total
Total numbers of pensioners, Sept. 30, 1933 Averages of monthly	ŏ,729	7,575	8,787	44,919	8,782	984	5	76,783
pensions\$ Total amounts of pensions	17.98	18.87	18-83	17-88	16.54	10.61	20.00	-
paid Jan. to Sept. 1933\$ Dominion Govern-	889,389	1,245,317	1,465,360	6,421,649	1,290,630	14,520	1,043	11,327,908
ment's shares\$ Total amounts of pensions paid since inception of Act	666,815	931,806	1,097,837	4,790,926	968, 631	10,890	1,:043	8,467,948
to Sept. 30, 1933\$ Dominion Govern-	3,557,798	7.105,216	7,363,932	32, 150, 864	6,850,741	14,520	5,827	57,048,898
ment's shares\$	2,305,323	4,307,929	4,552,409	20,271,549	4,263,567	10,890	5,827	35,717,494

The New Brunswick Legislature at its 1930 session passed an Old Age Pensions Act to come into force on a day to be fixed by proclamation, but the Act has not yet been proclaimed. An agreement has been signed between the Dominion and the province of Nova Scotia whereby payment of old age pensions in this province will commence on Mar. 1, 1934. The Gold Commissioner of Yukon was given authority in 1927 to enter into an agreement with the Dominion Government for the purpose of obtaining the benefit of the Old Age Pensions Act, but no scheme has yet been formulated. In Quebec an Order in Council was passed in October, 1930, providing for the creation of a Commission to study a system of social insurance for the province. In the Commission's fifth report published in November, 1932, the majority report declared "in favour of a contributory and obligatory system of old age insurance".

¹ The proportion paid by the Dominion as set in the Act of 1927 was one-half, but this was increased at the Second Session of the Seventeenth Parliament to 75 p.c., which increase was made effective from Nov. 1, 1931.

CHAPTER XIX

EDUCATION—RESEARCH COUNCILS— PUBLIC LIBRARIES

Education

The census of 1931, like those of previous decades, obtained a record of the number of the Canadian population attending school. It showed a ten-year increase of 25.8 p.c. in school attendance as compared with an increase of about 20 p.c. in the children of school ages, and less than 18 p.c. in the total population, thus providing unmistakable evidence that the school life of Canadian children has substantially lengthened. In addition to spending more years in school pupils are attending more regularly while there. The census was taken on June 1, and a question was asked as to how many months each child had attended since September 1, the maximum possible being nine months. Practically 95 p.c. of those at school were found to have attended from 7 to 9 months, where only 88 p.c. had done so in 1921; 80 p.c. of this gain was in rural districts.

Statistics of Education in Canada, 1932

Type of Institution	Number of Institutions	Number of Pupils	Number of Teachers	Expenditure
Provincially-Controlled Schools— (a) Ordinary day. (b) Technical day. (c) Technical evening. (d) Normal Schools. (e) Blind and deaf. Privately-Controlled Schools— (a) Ordinary day. (b) Business training. Dominion Indian Schools. Universities and Colleges— (a) Preparatory. (b) University grade. (c) Other.	133 379 57 12 871 187 350 53 2 149	2,169,621 64,460 126,219 7,975 1,840 94,266 19,203 17,163 23,057 43,143 26,223	67, 623 2, 009 2, 962 598 300 ¹ 5, 745 600 600 959 4, 820	(estimated)
Totals	32,901	2,593,116	86,216	163,944,75

¹⁴ norovimate

The wider diffusion of education was also reflected in the results of the census. More than 92 p.c. of the population over the age of five years in 1931 was able to read and write; in 1921 the proportion was 90 p.c. and in 1901 it was 83 p.c. Much the most rapid gains in literacy were made in Western Canada, the more recently settled provinces, where the proportion able to read and write, for the first time, equalled the proportion in the five older provinces.

Throughout the Dominion of Canada public education is a matter of provincial concern, except for the task of instructing the Indians who are wards of the Dominion Government. The administration of education is one of the chief functions of Provincial Governments, and there has developed in each province a school system with its own individuality

²Including only affiliated schools that are not enumerated in (b).

though the similarities are striking among all except French-speaking Quebec. As the summary table shows, only about 5 p.c. of the school population under university grade are in schools other than those of the provincial systems. Six of the provinces have provincial universities, and the remaining three have certain colleges belonging to the higher educational system.

Ordinary Day Schools of General Education.—The provincially-controlled schools in this category care for 2,169,621 pupils, the privately-controlled, 94,266, making in all 2,263,887. Except in Quebec, practically all of these pupils are distributed over twelve grades, each requiring about one year for the average child to complete. The first eight grades are generally elementary, the remaining four secondary or high school, though there is a growing tendency in several provinces to have the elementary course proper end at the sixth year, and to introduce an intermediate school or junior high school of about three years between it and the senior high school. The greatly enhanced proportion of pupils proceeding to the end of the elementary grades and starting to high school has made it necessary to focus attention on these transitional years of the school curriculum. The Dominion Bureau of Statistics calculates that over twothirds of the children in those provinces using the uniform grading system now get as far as the entrance to high school, that fully one-half receive some high school training, and that more than one-fifth reach the final or matriculation year. The proportions are much higher in urban areas. lower in rural parts, thus making the need for reorganization of the school courses greatest in cities, where, at the same time, the possibilities are greatest.

The organization of the school system of French-speaking Quebec bears more resemblance to those of western European countries, and less likeness to those of the United States than do the other provincial school systems in Canada. The outstanding feature of the latter is the simplicity of the structure—a single straight incline up which all children proceed together from the elementary to the high school grades and thence on to a normal school or university. The Quebec Catholic system has two fairly distinct groups of institutions—the primary schools and the secondary schools. The former include the great majority of children and give a course with a strong vocational flavour especially in the upper years but do not prepare pupils for university entrance. The smaller group consists mainly of residential schools whose function is to give a classical training from early years in preparing students for the universities. Statistics of the secondary schools of Quebec are included with colleges.

Technical and Vocational Schools.—To an increasing extent in recent years, technical and industrial schools are coming to supplement the work of the schools of general education, due in considerable measure to the stimulus given to this type of education by Dominion subsidies. In 1913 the Agricultural Instruction Act provided for the distribution of \$10,000,000 among the provinces in ten years; in 1919 a similar sum was voted for the advancement of technical education on condition that the provinces themselves each spend an additional amount equivalent to its share; in 1929 the time limit in which the provinces might qualify for their shares was extended five years; in 1931 a new Act authorized an annual appropriation of \$750,000 over a period of fifteen years.

ROYAL ONTARIO MUSEUM



The museums of Canada occupy a very important place in the educational field and the exhibits of the Royal Ontario Museum, Toronto, are particularly outstanding among those of Canadian museums. Such eminent authorities as Miers and Markham in their report The Museums of Canada (p. 4) published by the Museums Association of London, England, in 1932, say of this institution: ". . . The Royal Ontario Museum is now the largest and richest of all Canadian museums . . . is so administered and displayed that its collections cannot fail to be of educational value to all visitors. Many of the

The enrolment in day courses in 1932 was 64.460. Practically all pupils were of post-elementary grade, and 36,328 were in the province of Ontario where a general system of secondary technical schools has developed further than in other provinces, as would be expected from the greater number of its industrial cities. As in the academic high school enrolment, boys are outnumbered, in the technical school enrolment of most of the provinces, by girls who generally follow business training, household science or art courses. Indeed, in five of the provinces there are schools in this category confining their instruction entirely to the fine arts, keeping in mind the practical aspects of applied art as required in commerce and industry. Evening classes in the technical schools enrolled 126,219 pupils in 1932, and included a wide variety of courses, all of which were not of secondary grade.

In addition to the enrolment above mentioned, which includes only the pupils in publicly-supported schools, there are many independent schools of a technical character conducted by private enterprise. The most numerous are the business colleges, one or more of which is established in each of the cities and larger towns. These train annually thousands of young people for office positions. Their enrolment in 1932 was 19,203, one-

third of whom attended evening classes.

Indian Schools.—Scattered throughout the provinces and territories of the Dominion are 80 residential and 270 non-residential schools for the children of native Indians. They were attended in 1932 by 17,163 pupils, almost half of whom were in residential schools, in the operation of which the Department of Indian Affairs works in close co-operation with the Roman Catholic, Anglican, United and Presbyterian churches. The school curriculum of the province in which the Indian school is situated is generally followed, but special emphasis is put on care of the health, language and vocational subjects. Girls are given training in domestic science, boys in agriculture and certain trades, in the residential schools. In 1919 school attendance of all physically fit Indian children between the ages of seven and fifteen was made compulsory and in 1931 the compulsory age limit was raised to sixteen years.

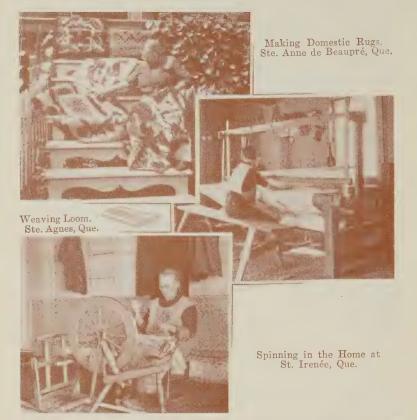
Teacher Training Schools.—Each province has one or more normal schools, 57 in all, in which there were 7,975 teachers in training in 1932. In all cases except Quebec and Prince Edward Island, where a part of the prospective teacher's academic training is received in the normal schools,

exhibits are definitely arranged with an educational purpose in view and it

performs very fully the offices both of a university and a public museum."; and again on p. 9, "The Royal Ontario Museum is the largest museum building in the Dominion, and the new extensions render fair to make this one of the largest museums on the American continent".

This museum was established in 1912, the cost being shared by the province of Ontario and the University of Toronto. There are five Departments each under a Director who is head of the corresponding department in the University of Toronto. All these departments are represented in the illustrations: (1) The tomb and accompanying sculptures of a Chinese General of the Ming dynasty (1368-1644)—Department of Archæology; (2) A view in the galleries of the Department of Geology; (3) A portion of the exhibit in the Department of Palæontology; and (5) The gallery of foreign animals in the Department of Zoology. Illustration (6) shows the new wing of the museum, facing on Bloor Street, Toronto. 70800-12

HANDICRAFTS IN QUEBEC HOMES



Quebec Handicrafts—Among the features which contribute to the old world atmosphere characteristic of the province of Quebec, home handicrafts stand prominently forward. They are much more than a practical means of providing for the rural family's needs in clothing, woollens, carpets, household decorations, etc., or a mere attraction to tourists. They are an outlet for the artistic expression of a people close to nature and peculiarly and highly endowed artistically. In order to encourage the work, the Quebec Government, through its Department of Agriculture, established a Handicraft School in 1930, with a view to the encouragement of spinning, weaving, etc., in the home The Department of Agriculture has a staff of 12 lecturers and 2 designers.

In 1932, 130 series of spinning and weaving courses had been given, in womenfarmers' clubs and parochial groups, to 7,199 students, and there were further

requests for courses that could not be met.

In the school at headquarters, more advanced courses were given to 245 students. A special summer course was given for the nuns of household science This school also investigates the suitability of dyeing and textile materials. In co-operation with it, the Fine Arts and Technical Schools are helping in making rustic furniture, pottery and metalware.

The movement has since spread into the Maritime Provinces through the

agency of McGill University.

the courses are not of more than one year's duration, though Ontario is now experimenting with a plan to bring teachers back for a second year of normal school training after a few years' teaching experience. Except in Quebec some attendance at a normal school or a university training college is now prerequisite to the receipt of a teaching certificate. To train teachers for higher grade certificates all of the provinces except one now have approved teacher training departments connected with their universities.

Universities and Colleges.—Canada has 149 institutions providing higher educational facilities. Over 60 of these offer only arts courses, a further 35 are theological colleges, and 15 others confine their instruction to one line of professional training such as agriculture or engineering. Some of these grant degrees but the majority are affiliated to one of the 18 universities which grant more than 95 p.c. of all degrees in the country. In many of the higher educational institutions French is the chief language of instruction, the three largest being the Université de Montréal, Université Laval at Quebec city, and the Université d'Ottawa.

There were 43,143 students of university standard in 1932, and a number almost half as great in the preparatory or high school courses conducted by many of the colleges especially the Quebec classical colleges. The importance of a third class of work—extension activities—done by the universities is difficult to express numerically. Over 22,000 pupils attend evening and Saturday classes, summer schools, and other short courses, but such work extends beyond the walls of the universities to reach hundreds of thousands every year by lectures, radio broadcasts, travelling libraries, lantern slide sets, educative gramophone records, and regular sections in the daily or weekly press.

Research Councils

The work of the universities in providing a body of skilled men and women to investigate problems of applied science and industry has been facilitated as well as supplemented within the past few years by the formation of organizations for research by the Dominion and some of the Provincial Governments. What is now the National Research Council was first established in 1916, the Research Council of Alberta in 1921, the Ontario Research Foundation in 1928, and the Research Council of Saskatchewan in 1930. Close co-operation is maintained with the universities on the one hand and industrial concerns on the other. The directors of research are generally drawn from the university staffs and are assisted by a selection of young graduates.

The Alberta Council has dealt mainly with fuels, road materials, geological and soil surveys, due to the predominance of agriculture and non-metallic minerals among the province's resources, and space at the provincial university has been used for laboratories. The Ontario Research Foundation is housed in Queen's Park, Toronto, in close proximity to the university, and in 1932 has been conducting studies in five main departments: textiles, metallurgy, veterinary science, chemistry and biochemistry. The scheme of organization under which the Foundation operates provides that half of the cost shall be borne by the Legislature and half by the subscriptions of industries and private individuals.

Seven years ago the Government authorized the National Research Council to establish its first laboratory, and early in 1930 investigations were begun in a temporary building in Ottawa in chemical, physical and aeronautical problems. About the same time construction of new laboratories at a cost of \$3,000,000 was begun. These were opened by the Governor General and have been occupied since midsummer, 1932, the original temporary quarters now serving as an annex. The Council itself consists of 15 members, and two classes of associate committees work in conjunction with it. Advisory committees have been established on chemistry, physics, botany, mining and metallurgy, nitrogen fixation, electrical measuring instruments and engineering standards, their function being to report on problems referred to them by the Coun-The other type of committee is appointed to direct or undertake definite research problems in co-operation with the Council, and usually has in its membership representatives from other organizations making investigations into the same problems. The Council gives financial assistance to researches in university, industrial and other government laboratories, to facilitate the purchase of equipment or the provision of technical assistance essential to researches that are in hand. Over 100 investigations of this kind are at present being assisted in 25 different laboratories. Further, in order to give graduates of Canadian universities specialized training in scientific investigation, the Council has established a system of post-graduate scholarships. They are of four main classes varying with the qualifications and experience of the applicants; bursaries of the annual value of \$600, studentships \$750, fellowships \$1,000, and a few travelling fellowships valued at \$1,500. All except the last are tenable at the various Canadian universities. These involve an annual expenditure of about \$50,000.

Public Libraries

Apart from the books that the Canadian reader may buy for his own use or borrow from his friends, there are the following three main sources of reading material to which the public has access:—

First is the lending library operated as a profit-making business from which books may be borrowed, usually at a few cents per day or week. Lending libraries are to be found, usually in connection with a store in towns of all sizes, and though there is no record of the reading done from this source there is no doubt that it is very considerable.

Next comes the church or parish library, the predominating type of community library provision throughout Quebec where there are 275, and in French-Canadian sections of other provinces. The books, usually several hundred in number, are the property of the parish church and are generally kept in it or at the house of the parish priest. Churches in some English-speaking communities maintain libraries, but the proportion is not nearly as high as in Quebec where there are comparatively few of the public municipal or association libraries common to the other provinces.

Lastly, in the cities and larger towns of the eight English-speaking provinces there are generally libraries supported wholly or in part by municipal and provincial funds, but only in Ontario is there a considerable number of established public libraries in smaller communities. In this

province there are 473 public libraries (not counting city branches) of which almost half are in unincorporated communities. The numbers of public libraries which are reported as operating in the other provinces in 1932 are: Prince Edward Island, 2; Nova Scotia, 14; New Brunswick, 9; Quebec, 21; Manitoba, 20; Saskatchewan, 27; Alberta, 20; British Columbia, 33; the Yukon, 3. If 700 (the average for Ontario) be taken as the average population served by the libraries in rural or semi-rural communities, the number of persons served by the Dominion's 622 public libraries is about 4,400,000 or 42·4 p.c. of its population. In British Columbia and Ontario the proportion is over 50 p.c.; in some of the more rural Maritime and Prairie Provinces it is in the neighbourhood of 20 p.c.

In past years smaller communities have had to rely for public library service mainly on "travelling libraries". These are cases of about 50 books, made available from a publicly maintained collection of books at the provincial capital in the five most westerly provinces, and from McGill University's similar system in the four remaining provinces. But since the combined circulation of books from these sources is scarcely a million volumes annually, (fewer than a third of the outside loans of the Toronto Public Library, to mention a comparison) and almost half of this travelling library circulation is in the province of Saskatchewan, they obviously do not take the place of established libraries in supplying reading for the smaller communities. With a view to improving this situation librarians are directing efforts toward the formation of larger administrative library units,—counties or similar areas which will include with the larger towns the smaller settlements and rural areas surrounding them. A fiveyear experiment now in progress in the Fraser Valley of British Columbia, financed by the Carnegie Corporation, is designed to demonstrate the possibilities of district library organization when it has at its disposal a central repository of books and a convenient means of transporting them (a book-van) from place to place. In some of the Ontario counties, the town libraries have established stations or branches in the adjoining area, and the aim is toward co-operative purchases and general access to a central stock of books by existing libraries. Over a period of three years the Department of Education in Nova Scotia has been gradually introducing a scheme to provide library service in each county by putting in each school, small temporary packages of books, transferable within the county four times yearly. The scheme is considered by its sponsors to be a temporary expedient only, and it is their hope that it will give rise to a demand for county library organization more like that toward which Ontario and British Columbia have been taking steps, and which is generally practised in some other countries.

CHAPTER XX

MISCELLANEOUS STATISTICS

Public Health, Hospitals and Charitable Institutions

In Canada, generally speaking, the administration of public health activities and the establishment and maintenance of such institutions is in the hands of the various Provincial Governments, under the powers given them in Sec. 92 of the British North America Act of 1867.

Exercising particular jurisdiction over some phases of the general health of the people of the Dominion is the Department of Health of the Dominion Government, while the Dominion Council of Health acts as a clearing house on many important questions. This Council consists of the Deputy Minister of the Dominion Department of Pensions and National Health as Chairman, together with such other persons as may be appointed by the Governor in Council to hold office for three years. The public health activities of the Dominion Government include the following divisions: Quarantine, Immigration, Leprosy, Marine Hospitals. Venereal Disease, Child Welfare, Sanitary Engineering, Proprietary or Patent Medicine, Laboratory of Hygiene, Food and Drugs, Hospital Advisory Services.



The Toronto Hospital for Consumptives, Weston, Ontario; one of the largest tuberculosis hospitals in Canada. Canada now has 31 tuberculosis hospitals operating, with 6,044 beds. The total number of tuberculosis beds, including those in Public hospitals, is 8,292. If treatment is to be effective, the diagnosis must be made, and treatment begin, early, To this end, certain of the provinces have established travelling chest clinics to encourage periodic examination of "contacts".

Photo, courtesy National Sanitarium Association.

In classifying the various types of social service in Canada certain broad and well-established groups manifest themselves. These divisions are: (1) Hospitals, Dispensaries and Out-patient Departments; (2) Mental Hospitals and Institutions for the Feeble-minded and Epileptic; (3) Institutions for the Blind, Deaf and Dumb; (4) Homes for Adults and

Homes for Adults and Children; (5) Orphanages, Child-caring Institutions, Day Nurseries and Child-placing Agencies and voluntary organizations. The list of voluntary organizations engaged in some branch of social service is a comprehensive one and covers every variety of social service.

The most familiar of all public institutions established to administer and foster the general health of the community is the general hospital common to all cities and towns and prosperous rural communities. Where hospitals cannot be maintained in remote districts, Red Cross outposts or rural clinics in charge of district nurses are established. There were in operation on Jan. 1, 1932, 784 hospitals with a total of 52,853 beds, and with 666 salaried physicians, 689 internes, 4,603 graduate nurses and 9,756 nurses in training. The number of in-patients treated during 1931 was 599,440 and the collective stay (number of days' treatment) of all patients was 11,471,697. The number of patients treated in out-patient departments in connection with public hospitals during 1931 was 693,398, showing a total number of treatments of 1,888,634. The total receipts reported amounted to \$42,734,963, and total expenditures to \$43,417,489.

Number of Public Health and Charitable Institutions for Canada, by Provinces, as at June 1, 1932

Type of Institution	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
Hospitals	4	37	2 9	103	216	45	112	131	100	7	784
Out-Patient Depts		7	11	48	40	18	17	25	25	<u> </u>	191
Mental Institutions	1	18	1	9	16	4	2	3	4	_	58
Incurable Hospitals	_	_	ī	6	7		2	3	1		20
Charitable and Benevo-			-	ľ			_		-	_	20
lent Institutions:-											
Homes for Adults	1	9	8	28	63	4		_	5	_	118
Homes for Adults and						-				_	110
Children	-	6	9	44	13	3	_	1	3	_	79
Orphanages	2	10	7	41	29	13	. 5	3	9		119
Day Nurseries	-	1	1	7	8	2	_	_	1		20
Child-Placing Agencies						_					20
and Children's Aid											
Societies	2	14	4	1	56	4	3	4	3	_	91
Juvenile Immigration			-	-	00	-			U		91
Societies	_	2	1	2	9	1	2	1	1	_	19
Blind, Deaf and Dumb		2		5	2	1			î		11
Grand Totals1	10	99	61	246	419	77	126	146	128	7	1,319
						- '					1,010

¹Out-patient departments are not included in the grand totals as the large majority of them are operated in connection with hospitals.

Second in importance to the general hospitals are the public mental hospitals for the insane. These hospitals are assisted in their care of indigent patients by municipal and provincial grants. In addition, we have private hospitals for the insane, public hospitals for the feebleminded, county asylums and institutions for children of retarded mental growth. There are 58 institutions that care for the insane, mentally deficient and epileptic. There were present in these institutions on Jan. 1, 1933, 33,290 inmates. The total receipts for 1932 including government grants and fees were \$12,131,035 and the total expenditures \$12,041,155.

Homes or hospitals for incurables supply maintenance, nursing, medical and surgical aid to persons suffering from chronic and incurable diseases and the nature of the services given is such as to call for special reference. Many hospitals for incurables care not only for those suffering

from incurable diseases but also for the aged, indigent, feeble-minded and epileptic. There are 20 of these institutions in operation. The average number of patients per day during 1931 was 1,923, the bed capacity 2,338 and the total number under treatment 2,607. Total receipts amounted to \$995,807 and total expenditures to \$945,814.

Charitable and benevolent institutions for adults and children include refuges and homes, child-welfare institutions, hospices, houses of refuge, county and municipal homes, poorhouses and houses of industry. The number of adults in such institutions on June 1, 1931, was 11,750 and the number of children 39,269, making a total of 51,019 under care. No later figures are available.

Judicial Statistics

The collection and publication of criminal statistics was first authorized by an Act of 1876 (39 Vict., c. 13), and the results have been published upon a comparable basis from that time to the present, and are now collected and published by the Dominion Bureau of Statistics under the Statistics Act (8-9 Geo. V, c. 43). It should be remembered that while the criminal code undergoes little change over periods of time, the figures of summary convictions depend very much upon the changes in the customs of the people, and are apt to increase with the increasing urbanization of the population. The most significant column of the following table is the figure of criminal offences per 100,000 of population. Attention may be drawn to the increase in the proportion of both criminal offences and minor offences to population in recent years, convictions for criminal offences having risen from 277 per 100,000 population in 1924 to 424 per 100,000 population in 1931 and convictions for minor offences from 1,535 per 100,000 in 1924 to 3,113 per 100,000 in 1931. However, for 1932, a substantial betterment was shown in each of these classes.

Convictions for Criminal Offences, by Groups, and Total Convictions for Minor Offences, years ended Sept. 30, 1921-32, with Proportions to Population.

	Offer	nces again	nst—	Other						
Year	The Person	Property with Violence	Property without Violence	Felonies and Misde- mean- ours	Crin	Total of ainal Offe		Min	or Offeno	ees
	No.	No.	No.	No.	No.	P.C. of all of- fences	Per 100,000 pop.	No.	P.C. of all of- fences	Per 100,000 pop.
1921 1922 1923 1924 1925 1926 1927 1928 1930 1931	8,197 7,291 7,550 7,595 7,826 7,799 8,343 9,140 10,392 11,052 11,773 10,327	2,609 2,783 2,076 2,536 2,749 2,296 2,671 2,991 3,529 4,647 5,288 5,194	12,059 11,607 11,482 12,790 13,892 14,262 15,154 16,072 17,271 18,498 21,528 20,766	2,081 2,610 3,075 2,635 2,644 2,679 2,809 3,856 4,001 6,584 5,475 5,510	24,946 24,291 24,183 25,556 27,111 27,036 28,977 32,059 35,193 40,781 44,064 41,797	14·2 15·3 15·1 15·3 15·3 13·8 13·1 11·6 10·9 11·8 12·0 12·4	284 271 266 277 289 287 304 332 359 410 424 402	152,227 134,049 135,069 141,663 150,672 169,171 191,285 243,123 286,773 304,860 323,024 294,858	85·9 84·7 84·8 84·7 86·2 86·9 88·4 89·1 88·2 88·0 87·6	1,731 1,498 1,487 1,535 1,610 1,803 2,009 2,517 2,927 3,068 3,113 2,841

It should be understood that the classification of offences in the above table is irrespective of the more technical classification into "indictable" and "non-indictable" offences under the Criminal Code, the object here being to show a broad record of criminal and minor offences respectively since 1921.

Of the total convictions for criminal and minor offences for 1932, viz., 336,655, the sentences imposed were: gaol or fine, 242,127; penitentiary,

2,892; reformatory, 1,156; death, 23; and other sentences, 90,457.

Death sentences have fluctuated over the past ten years between a minimum of 12 in 1927 and a maximum of 26 in 1929. For 1931 they were 25 and for 1932, 23.

Police

Police statistics are collected by the Bureau of Statistics from cities and towns having populations of 4,000 and over. In 1932 there were 152 such municipalities from which returns were received. The following table gives these statistics by provinces.

Police Statistics, by Provinces, calendar year 1932

		1	Number	Number				
Province	Cities and Towns	and Popu-		Arrests	Sum- monses	of the Population to each Policeman	of Arrests per Policeman	
Prince Edward Island Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba Saskatohewan. Alberta. British Columbia.	1 12 5 38 68 7 8 4 9	12,361 167,344 87,500 1,403,902 1,734,958 273,012 149,015 192,747 344,536	8 136 86 2,008 1,875 309 145 194 431	336 4,511 2,819 51,901 32,517 5,478 2,717 4,034 6,993	311 1,137 950 12,078 94,662 23,264 3,039 4,890 15,063	1,545 1,230 1,017 699 925 883 1,027 993 799	42 33 32 25 17 17 18 20	
Canada	152	4,365,375	5,192	111,306	155,394	840	21	

Offences reported to the police numbered 311,212; there were 254,512 prosecutions, resulting in 205,488 convictions. The number of automobiles reported stolen was 8,291 and 8,156 were reported recovered. The value of other goods stolen was \$2,253,755, and the value of goods recovered was \$1,040,361.

Royal Canadian Mounted Police.—The Royal Canadian Mounted Police is a Constabulary maintained by the Dominion Government. It was organized in 1873 and was then known as the North West Mounted Police; in 1904, its name was changed to the Royal Northwest Mounted Police and in 1920, to the Royal Canadian Mounted Police. In 1920, the former Dominion Police, with Headquarters at Ottawa, whose duties were largely connected with guarding of Public buildings in that city and Canadian Government dockyards at Halifax and Esquimalt, were absorbed by the Royal Canadian Mounted Police. From a Force of 300 men in 1873, it has grown to one of 2,500 at the present time.

The Force is controlled and administered by a Minister of the Crown (at present, the Minister of Justice) and it may be employed anywhere in Canada. It is primarily responsible for the maintenance of law and

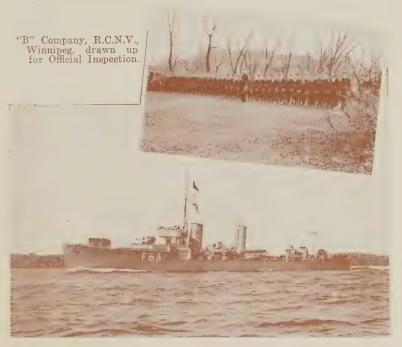
order in Yukon, the Arctic regions and the unorganized Northwest Territories; it performs a variety of services for the Dominion Government in all provinces, and a number of the Dominion departments utilize its services in investigations and in administrative work. Amongst the many services rendered for the Dominion Government, the repression of the traffic in nexious drugs, the protection of Government buildings and dockyards, enforcement of Dominion laws, including the Migratory Birds Convention Act, and the duties of the Preventive Service of the Department of National Revenue by air, land and sea may be mentioned.



Royal Canadian Mounted Police at Musical Drill, Military Tattoo, Ottawa, September, 1933. Photo, Canadian Government Motion Picture Bureau.

Under the Royal Canadian Mounted Police Act, any province may enter into an agreement with the Dominion Government for the services of the Royal Canadian Mounted Police to enforce provincial laws upon payment for its services, and at the present time, such agreements are in iorce with the provinces of Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta.

The Force is divided into 15 divisions of varying strength distributed over the entire country. The term of engagement is 5 years for recruits with re-enlistment for 1 year or 3 years. The officers are commissioned by the Crown. Recruits are trained at Regina, Saskatchewan. The course of training is six months and consists of drill, both mounted and on foot, physical training, including instruction in wrestling and boxing and detailed lectures on police duties. Instructional courses for promotion are held and where practical, an annual refresher course of training is given.



H.M.C.S. Vancouver—Canadian Destroyer in Commission on the Pacific Coast.

Photos, courtesy Department of National Defence.

National Defence

Militia.—Canada is organized in 11 military districts, each under a Commander and his District Staff.

The militia of Canada is classified as active and reserve, and the active is subdivided into permanent and non-permanent forces. The permanent force consists of 14 regiments and corps of all arms of the service, with an authorized establishment limited to 10,000, but at present the strength is about 3,500. The non-permanent active militia is made up of cavalry, artillery, engineers, machine gun, signalling, infantry and other corps.

The total establishment of the Canadian non-permanent militia totals 9,029 officers and 125,722 other ranks.

The reserve militia consists of such units as are named by the Governor in Council and of all able-bodied citizens between the ages of 18 and 60, with certain exemptions. The reserve of the active militia consists of: (1) reserve units of city and rural corps, (2) reserve depots, (3) reserve of officers.

The appropriation for the militia for the year ending Mar. 31, 1934, is \$8,883,484, as compared with an expenditure of \$8,718,881 for the fiscal year 1932-33.

Air Force.—The Air Force in Canada consists of the Royal Canadian Air Force classified as active and reserve. The Active Air Force is subdivided into the Permanent Active Air Force and the Non-Permanent Active Air Force.

The Royal Canadian Air Force controls and administers all Air Force training and operations, and carries out operations on behalf of other Government Departments. The Aeronautical Engineering Division of the Air Force, in addition, acts in an advisory capacity on technical matters to the Controller of Civil Aviation and to civil aviation organizations.

The strength of the Royal Canadian Air Force on Aug. 1, 1933, was 106 officers and 585 other ranks.

The appropriations for the Royal Canadian Air Force for the fiscal year 1933-34 totalled \$1,405,000, as compared with an expenditure of \$1,554,400 in 1932-33.

Civil Aviation.—The Controller of Civil Aviation is concerned with the administration of the Air Regulations and the control of commercial and private flying.

The appropriation for civil aviation for the fiscal year 1933-34 was \$195,000.

Navy.—The Royal Canadian Navy was established in 1910. The authorized complements are: 104 officers and 792 men of the permanent force (Royal Canadian Navy); 70 officers and 430 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Volunteer Reserve. Ten appointments of officers of the Royal Canadian Naval Volunteer Reserve are reserved for graduates of the Royal Military College who have had naval training during their Royal Military College course. The vessels at present maintained in commission are: the destroyers Champlain and Saguenay and the mine-sweepers Festubert and Ypres, based on Halifax, N.S.; the destroyers Vancouver and Skeena and the minesweeper Armentières, based on Esquimalt, B.C. H.M.C. Dockyards are at Halifax and Esquimalt, having been taken over from the Imperial Government in 1910. Naval depots are maintained at both bases, and are used as training headquarters for the personnel of the R.C.N., R.C.N.R., and R.C.N.V.R.

The appropriations for naval services for 1933-34 amounted to \$2,422,000. The expenditure for the year ended Mar. 31, 1933, was \$2,167,328.

INDEX

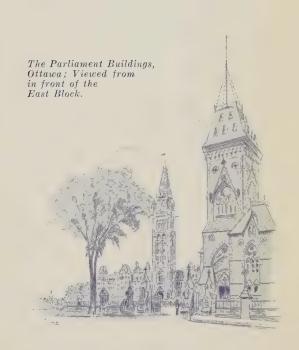
	PAGE		Page
Aboriginal races	59	Canada, trade, external	127
Accounts, Public the	147	— internal	139
Agriculture	61	— wealth and income	44 155
- lands	61 68	Canadian banking systembonds, sales of	162
production	67-8	- chartered banks	157
— wealth and production	67-8	— fishing grounds	95
- wealth of Canada, by provinces	68	— grain trade	64
Air mail service	126	- history, salient events of	34
— navigation	122	British Period	38
- services	188	— French Period — Northern Railway	34 116
Alberta, agriculture — births	68,76 58	- Pacific Railway	116
— deaths	58	- railways	116-19
— finance	150-1	expenditure	117-19
— manufactures	105	- Shield, the	15, 16
— marriages	58	— trade balance	133
— minerals	87	- water powers	91 44
— population — wealth and production	51 46,47	— wealth and income	119
Appuition Act Covernment	164	— Canadian systems	119
Annuities Act, Government	16,28	- traffic	119-20
Area and yield of field crops	71	Capital investments	49
Automobile insurance	160	Car loadings, 1933	12,119
- manufacturing industry	109	Census of manufactures	105
- registration	122	Central electric stations	93 140
Bank clearings and bank debits since		Chain stores	182-4
1924-33	158	Chartered Banks, statistics of	157
Banking	14,155	Cheese factories	75,76
— and currency	153	Cities, building permits	114
Bank note circulation	155	— populations of	53
notes	155	Clay products	87
Banks chartered, statistics of	157	Clearing-house transactions	158 73
Beetroot sugar production	72 72	Clover production	40
Beets, sugar, production of	58	Coast Range the	19
Births by provinces; number in Canada Board of Grain Commissioners	65	Coast Range, the	174,177
Bonded indebtedness, provincial	151	Combines Investigation Act	164
municipal	152	Commercial failures	163
Bonds, Canadian sales of, 1926-32	162	Commodities, prices of	143 142
Borden, Sir Kobert	43 49	Common stocks	116
British capital in CanadaBritish Columbia, agriculture	68,76	Communications, transportation and Company of the Hundred Associates,	110
births	58	the	35
— deaths	58	Confederation	40
early settlement of	. 31	Constitutional Act	38
finance	150-1	Construction	112 115
— fisheries	96	— building permits	112
— forestry	81 105	- contracts awarded - in transportation, etc	112
— manufactures marriages	58	Convictions for criminal offences	184
minerals	87	Co-operative associations	166
population	51	Cordilleran Mountain System, the	15,19
wealth and production	46-7	Cost of living	144
British Empire, area and population	50	Crop of 1933	71 72
— trade with	1 32, 133 113	Crops, special	153
Building operations	115	— Canadian	153
— by cities	114	— historical sketch of	153
value of	115	Customs duties	148
Butter	75 –6		
Cahlamana	400	Dairy production of Canada, by prov-	76
Cablegrams	123 123	inces, 1931	76 75
Canada, agricultural production	61-8	Day schools of general education	175
- area	50	Deaths, by provinces	58
— fisheries production	95-6	— number in Canada	58
- Grain Act	65	Debt, Dominion net	147
- population	51-8	Department of Labour	164 165
— physiography	15-33	Disputes, industrial	100
	1	89	

	PAGE .		PAGE
Divorces Dominion finances, expenditure	59 147	Great Plain of Central Canada, the Growth of population.	15, 23 51-2
- Government, note circulation - notes, circulation of - revenue	154 155 147	Highway mileage open for traffic, 1933. Highways and roads. Honey production.	121 121 73
	28	Hops production	72
Eastern Plain, the	167	Hospitals	182-4 91-2
- conditions in Canada at the close	7-14	— development	91
of 1933 Zducation in Canada, 1932, statistics of measures of progress in university ducational expenditures institutions	174	Immigration	58
- In Canada, 1932, statistics of	174 174-9	Imperial postage	126 10.129
- university	177 174	Imports — from British and foreign countries — of wheat for Canada, 1870-1933	10,129 129 70
- institutions	174	Income and production	46, 48
— institutions — systems Electric railways, capital	174 120	Index numbers of common stocks of employment	142 167
— miles of tracknumber	120 120	of 20 mining stocks	143
passengers	120	of retail prices. of security prices. of wholesale prices. Indexes of employment in manufactures	145- 142
Employers associationsEmployment by economic areas	166 167	of wholesale prices	144 111
by industries. during 1932 and 1933. index numbers of in leading cities. Eskimos.	169	Indian education	177
- index numbers of	167, 169	— schools Indians	177 59
— in leading cities	168	Industrial disputes	165 179
		Indians Industrial disputes	
Expenditure, Dominion	147 174	- statistics of 25 leading textile	109 104
educational. provincial Experimental farms and stations, work	151	Insurance	14,158 159
of the	63	- life - miscellaneous	158
Exports — of live stock and their products	9, 132 74-5	— miscellaneous Interest rates	160 161
of newsprint	83 70	Internal freight movements	140 139
of live stock and their products of newsprint. of wheat for Canada 1870-1933 to British and foreign countries	132	— trade International payments, 1931 and 1932, estimated balance of	
Express companies External trade	120 9,127	estimated balance of	135. 65
		- Wheat Agreement	49
Farm Relief Act, 1931, Unemployment	171	foreign Iron and steel industry	108
and	68-71	Judicial statistics	184
	146	Labour	164
— Dominion — municipal — provincial — public	146 151	— in politics — movement, the Laurier, Sir Wilfrid Libraries, public	16 5 16 4
- provincial	150 12,146	Laurier, Sir Wilfrid	43
— public Fire insurance Fish, game. — hatcheries. — industry. — trade.	159	Libraries, public	180 158
Fish, game	98 98	Live stock and their products.	73-5 73
- industry	95 96	Loan and trust companies	160
Fisheries of Canada	95	Lumber industry — production	80 81
- by principal kinds	96 96	Lumbering	78
— Government in relation to	98 72	Macdonald, Sir John A	41
- trade	71	Manitoba, agriculture	68 5 8
— trade Flour mills in CanadaForeign capital in Canada	71 49	- deaths	58 150-1
- exchange non-commodity, items of.	135 11,78	fisheries	96
exchange non-commodity, items of. Forest wealth of Canada. Freight movements, 1933 Frontenac, Louis Comte de.	140	— manufactures — marriages	105 58
Fruit-growing industry	36 76	— minerals	87 51
Fruit-growing industry. Fur farming. — farms, number of. — modern industry.	102 103	— population — wealth and production	46-7
- modern industry	100	Manufactures of Canada	104 105
- trade	102	— census of 1931 — conditions during 1932 and 1933	105 110
Game and scenery98, 1	01, 136-8	- employment in	110
Government and the fisheries	98 164	- history of	104 109
Grain crops	68-71 64	— summary of statistics of	105 110
- trade	04	urdue III	110

	PAGE 1		PAGE
Manufacturing siting of Counds the		Donas in dusture	
Manufacturing cities of Canada, the	110	Faper moustry	81
leading	110	- production	82-3
leading	72	Paper industry	100
Maritime Provinces, topography of the		People's banks	166
the	16, 28	Physiography, its influence on settle-	
Marriages, by provinces	58	ment. Police statistics. Population, growth of. — history of. — masculinity of.	15
- number in Canada	58	Police statistics	185
Masculinity of the population of Canada		Population, growth of	51
Canada	55	- history of	51
Maat paaking and claughtering	74	- mecalinity of	55
Matala	84	of Canada	50
Metals			90
Willitary forces	187	- of cities and towns having over	ro
Milling industry	71 87	15,000 inhabitants	53
Military forces. Milling industry. Milling products, value of. — production of Canada, by provinces,	87	- of the British Empire	50
— production of Canada, by provinces,		- rural and urban	52
1932 and 1933	87	Post Office	126
1932 and 1933 Mines and minerals, history of — modern industry	84	Poultry farming	73 23
- modern industry	11,86	Poultry farming	23
Mining industry, employment in	88	Prices of commodities	143
prospecting and development work.	88-9	Prices of commodities Primary Industries of Canada	46
Missellaneous insurence	160	Prince Edward Island, agriculture	68
Miscellaneous insurance		Links	58
— statistics Montcalm, General	182	births	58
Montcalm, General	37	—— deaths	
Montreal Stock Exchange, trade on	141	hnance	150-1
Montreal Stock Exchange, trade on Motor vehicles. — registered in Canada, by provinces, 1920-32.	121	— finance — fisheries	96
registered in Canada, by prov-		— manufactures	105
inces, 1920-32	122	marriages	58
Municipal mance,	151-2	population	51
— system of Taxation	152	wealth and production	46-7
		Production and income	46-9
National debt, 1868-1933	147	- agricultural	47, 68
- Defence	187	— by provinces	47
- Income	48	following	47, 96
- Policy	42	— fisheries	47, 90
— Policy. — Research Council.	179	- forestry	47, 96 47, 100
le homotories		— forestry — fur — grain	47, 100
laboratories	179	— grain	68-70
- wealth of Canada, estimate of	46	— manufacturing	47, 104
provincial distribution of	46	- mining	47, 87
Naval forces	188	— summary of	47, 87 47
New Brunswick, agriculture	68	Prospecting and development work	
births	58	— summary of. Prospecting and development work (mining industry). Provincial bonded indebtedness. — distribution of the national wealth	88
deaths	58	Provincial bonded indebtedness	151
— finance	150-1	distribution of the national wealth	202
fisheries	96	- distribution of the national weaten	46
fisheries	81	of Canada, 1930	150
— manufactures	105	- public finance	
manuactures		- revenues and expenditures	151
marriages	58	- taxation	150
— population	51	Public Accounts	147
- wealth and production	46-7	— finance	12,146
Newsprint paper	82-3	Dominion	146
industry	82-3	municipal	151
production	82-3	provincial	150
Nickel, production	87		182
Non-commodity exchanges	135	- libraries	180
Non-metallic minerals	87	Pulp and paper industry	81-3
Non-metallic minerals Northwest, recent development of the	33	— production	82
Notes, Dominion, circulation of	155	- production	
Nova Scotia, agriculture	68	Quebec Act	38
— births	58	- agriculture	68
doothe	58	- agriculture - births.	58
— deaths finance	150-1	- deaths	58
Gaborica	96	- finance	150-1
— fisheries			96
— forestry	81	- fisheries	81
manufactures	105	— forestry —handicrafts — manufactures	178
marriages	58	-nandicraits	
— marriages minerals	87	— manufactures	105
—— population	51	— marriages	58
wealth and production	46-7	— minerals	87
		— population	51
Old Age Pensions Act	173	- wealth and production	46-7
Ontario, agriculture	68		p. 4
— births	58	Racial distribution	54
- births bonds, yield of deaths	162	Radio	123
- deaths	58	— telegraph stations	123
- finance	150-1	Railway carloadings	12,119
- fisheries	96	— mileage of Canada	117
	81	- revenues and expenses	12,119
- forestry	105	Railways, earnings	117
- manufactures	58	- electric	120
- marriages	87	- freight	117
- minerals		- freight	119
— population — wealth and production	51	gross operating revenues statistics 1930, 1931 and 1932	119
- wealth and production	46-7	- statistics 1950, 1951 and 1952	115

	PAGE		PAGE
Rebellion in Lower Canada	39	Textile industries 1	05-111
Reciprocity Treaty	41	Timber industry	78
Red River Rebellion	42	Tobacco crop	72
Relief Act, 1932	172	Topography and Settlement	15
Religions of the population	55	— expenditures, 1926-32	138
Religious denominations in Canada,		Tourist trade	138
membership of eight leading, by		Trade, aggregate	127-9
provinces	55	- analysis of current	127-9
Representative Government	39	— balance of	10,133
Research Councils	. 179	- balances of the principal countries of	
Resources, forest	78	the world, 1931 and 1932	134
Responsible Government	39	— export	132
Retail prices, index number	145	— external	127
- trade	139	— grain	64
Revenue, agricultural	67-8	— import	129
— Dominion	146-7	— internal	139
— municipal — provincial — receipts, Dominion of Canada. Roads and highways.	151-2	- of Canada with the British Empire	
- provincial	150-1	and foreign countries	128
- receipts, Dominion of Canada	147	- of principal countries	134
Roads and highways	121	— staples of	29, 132
expenditure on	121	— total	127 138
Royal Canadian Mounted Police	185	- tourist, aggregate	170
Royal Commission on Transportation.	116 34, 36	- unions, unemployment in	139
Royal Government	.52	— wholesale and retail	164
Rural and urban population	126	Traders' index number of stocks	142
— mail delivery	120	Transportation and communications	116
G. T	100	- and public utilities	112
St. Lawrence Waterway	120	- historical sketch	116
Saskatchewan, agriculture	68, 76 58	- Royal Commission on	116
- births	58	Trust and loan companies	160
— deaths — finance	150-1	2 2 db c data 2 data c data participante da constituir de la constituir de	
— manufactures	105	Unemployment in Trade Unions	170
- marriages	58	- relief	171
— population	51	Union of Provinces	39
— population — wealth and production	46-7	Unions, trade organizations of	164
Sawmill products in Canada, by prov-		- trade, unemployment in	170
inces	81	United States, trade with the	128
Sawmilling industry	78-81	Universities and Colleges	177
Sex distribution of the population	58	University education1	74, 177
Schools, see "Education"	174	Urban and rural population	52
Scientific research	179-80		
Security prices, 1933	142	Value of production in Canada, sum-	
Shipbuilding industry	$\frac{122}{122}$	mary by industries	47
Shipping—entered and cleared	122	by provinces	47
- entered and cleared	123	Values of field crops	71
— history of — inland	122	Vehicles, motor	121
- ocean	122	Vocational schools	175
- vessels	122		
Slaughtering and meat packing	74	Water power, development in Canada.	91
Stock markets	141	—— expansion of, in 1933	92
Sugar beet crop	72	Wealth, survey of Canadian	44
		Welland Ship Canal, the new	120
Talon, Jean, Intendant of New France	36	Western Plain, the	23 69
Taxation, Dominion	147-8	Wheat	65
- municipal system of	152	-Agreement, International	139
- receipts from	148	Wholesale and retail trade	144
- recent changes in	149	Wolfe, General	37
Teacher Training Schools	177	Wood pulp production	82
Technical schools	175	Woods operations	78
Telegraphs	123	World trade	7-8
Telephones	123		
— companies	123	Yield of Ontario Bonds, 1927-1932	
- development	123	Lield of Officiallo Donds, 1921-1904	









A MESSAGE HIS EXCELLENCY THE EARLY BESSBOROUGH

GOVERNOR GENERAL OF THE DOMINION OF CANADA ON THE OCCASION OF THE TWENTY-FIRTH ANNIVERSARY

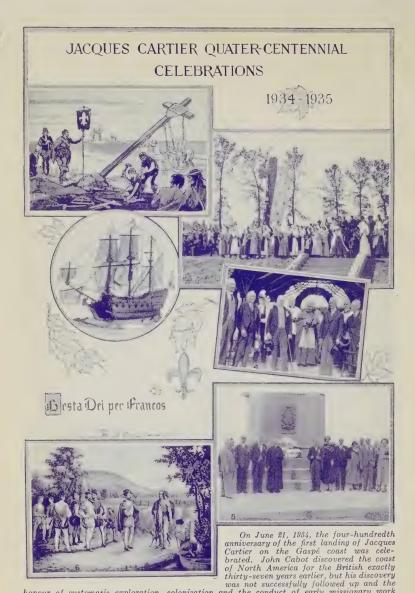
HIS MAJESTYS

ACCESSION TO THE THRONE
MAY 6, 1910.

Canada joins with the whole Frupine is celebrating the 25th anniversary of the King's accession to the Thoma.

New His knejects of loyal subjects in this Dminim unite in gratitude for the achievements of this mejection wise a beneficient reign, a in the common proget that he may long be speed to rule over us.

Beacheroup.



honour of systematic exploration, colonization and the conduct of early missionary work belongs to the French. The plate shows (1) A reproduction of the painting by the artist Simpson of Cartier's landing at Gaspé; (2) A view of the model of the vessel "La Grande Hermine" in which Cartier sailed. This model was presented to the Canadian Government by the Government of France during the celebration of 1984 and is now in the Public Archives, Ottawa; (3) A view of the actual celebration proceedings at Gaspé; (4) A few of the notables who took part in the proceedings. Cardinal Villeneuve, with the Prime Minister, the Right Hon. R. B. Bennett, to his right, is shown in the centre of the picture. The Hon. L. A. Taschereau, Premier of the Province of Quebec, is at the extreme right of the picture; (5) Many distinguished visitors from France and elsewhere attended the celebration and were later entertined at Quebec city. A group of these is shown at the foot of Champlain's Monument in Quebec city; (6) A reproduction of an old print in the Public Archives, Ottawa, showing Cartier's arrival at Hochelaga at the time of his second voyage in 1535. Arrangements are being made by the city of Montreal and the municipalities on Montreal island to commemorate this event in October, 1935.

Courtesy, Public Archives, "La Presse", "Le Soleil" and C.N.R.

Courtesy, Public Archives, "La Presse", "Le Soleil" and C.N.R.

CANADA 1935









The official andbook of Present Conditions and Recent Progress

PUBLISHED BY AUTHORITY OF THE HON.R.B.HANSON, KC, M.P.
MINISTER OF TRADE AND COMMERCE



DOMINION BUREAU OF STATISTICS

OTTAWA-CANADA

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OTTAWA, CANADA

FOREWORD



HIS little book is designed to set forth in brief and readable form the recent progress and present condition of the Dominion of Canada. Owing to the development of the Dominion and the growing complexity of its institutions, it is becoming increasingly difficult to deal in small compass with the whole range of its economic and social organization. The current reports of the Domin-

ion Bureau of Statistics deal in great detail with the subjects of population, production, external and internal trade, transportation, prices, finance, education, hospitals and charitable institutions, criminality, etc., but these detailed publications are intended mainly for those who are specially interested in these particular phases of our national life. Again, the Canada Year Book, which summarizes these and other official publications, is itself too detailed for the average citizen and too expensive for general distribution. The present publication presents the result of an effort to survey the Canadian situation as a whole within a reasonable space, in a popular and attractive format, and at a cost which makes possible a wide distribution.

This handbook is designed to serve two very necessary purposes. To those outside of Canada, it will give a well-rounded picture of the current Canadian situation from Atlantic to Pacific, with sufficient historic and descriptive information as the background of the treatment. In Canada, itself, the handbook will be of assistance in the general discussion of the economic situation incidental to our New Year national stock-taking, and will help to provide a better basis of information for dealing with the

business problems of 1935.

R. B. HANSON,

Minister of Trade and Commerce.

Ottawa, January 1, 1935.

NOTE

This handbook has been prepared in the Dominion Bureau of Statistics from material which has, in the main, been obtained from the different Branches of the Bureau. In certain special fields information has been kindly contributed by other Branches of the Government Service.

R. H. COATS,

Dominion Statistician.

CONTENTS

Foreword	PAGE 3
	0
Introduction—Review of the Economic Position of Canada at the Close of 1934.)	7
CHAPER I—The Territorial Evolution of Canada	15
Chapter II—Population—Births, Deaths and Marriages—Immigration—Aboriginal Races	21
CHAPTER III—Wealth, Production and Income—Capital Investments	33
CHAPTER IV—Agriculture	41
CHAPTER V—The Forest Wealth of Canada—Lumbering—Pulp and Paper	59
CHAPTER VI—Mines and Minerals	65
CHAPTER VII—Water Powers of Canada	74
CHAPTER VIII—The Fisheries of Canada	80
CHAPTER IX—The Fur Trade	85
CHAPTER X—The Manufactures of Canada	89
CHAPTER XI—Construction	98
CHAPTER XII—Transportation and Communications	103
CHAPTER XIII—Internal Trade—Wholesale and Retail Trade—Freight Movements—Stock Markets—Commodity Prices—Cost of Living.	119
CHAPTER XIV—External Trade of Canada—Non-Commodity Exchanges	126
CHAPTER XV—Public Finance	140
CHAPTER XVI—Currency and Banking—Insurance—Loan and Trust Companies—Miscellaneous	147
Chapter XVII—Labour	159
CHAPTER XVIII—Education—Public Libraries	169
CHAPTER XIX—Miscellaneous Statistics	174
Appendix	186
Index	189

LIST OF ILLUSTRATIONS

	PA	GE [PAGE
1	The Parliament Buildings from the		33.	Cotton Mill near Fredericton, N.B	96
	East Block, OttawaBack of Frontispe	ece	34.	Sheave Wheels being Turned on a	
2.	His Majesty King George V Frontisp	iece		Boring Mill	97
3.	A Message From His Excellency the		35.	Construction.—Canadian Lumber	98
	Governor GeneralFacing Frontisp		36.	A Modern Stripping Shovel at Work.	100
4.	Jacques Cartier Quater-Centennial Celebrations			Road and Highway Construction	101 102
	Celebrations	age		Gypsum Tile Ready for Shipping	102
5.	The Hon. R. B. Hanson, K.C., M.P.,	7	09.	C.P.R. Gravity Classification Yard,	103
	Minister of Trade and Commerce.	- 6	40	Winnipeg Ocean and Lake Shipping of the Can-	100
0.	A Street in an Indian Village, Alert Bay, B.C	32	10.	adian Merchant Service	104-5
7	Elevators and Flour Mills at Fort	-	41.	His Excellency the Governor General	
	William, Ont	33		at the Opening of the International	
8.	Production.—Pouring Molten Steel			Highway Bridge, Cornwall, Ont-	
	into Ingot Moulds	36		ario	110
9.	Rivière des Prairies, Que	41	42.	Air Transportation.—Opening of the	
10.	Huron WheatGrain-Growing on the Prairies	43		United Air Lines Service from	111
11.	Grain-Growing on the Prairies	44	42	Seattle to Vancouver	111
12.	Field of Hemp Grown for Fibre	48	40.	Montreal Harbour Bridge)	113
13.	Loading a Grain Boat from the Elev-		44	Blattnerphone System of Recording	110
	ators at the Head of the Great	49	22.	and Re-Transmitting Broadcasts	114
1.4	Lakes. Cattle on Range in Western Canada.	52	45.	The Canadian Postal Service	117
15	Hog Carcasses Ready for Trimming			A Corner of the Newly-Organized	
10.	into "Wiltshires" at a Canadian			Toronto Stock Exchange	121
	Packing Plant	53	47.	C.N. S.S. Liner at Bermuda	126
16.	Packing Plant The Maple Sugar Industry of Eastern		48.	Loading Bananas, Jamaica, B.W.I	127
	Canada	54	49.	Marine Sponges	130
17.	A Herd of Ayrshire Dairy Cattle	56	50.	A Few Staples of Canada's Export	132
18.	Grading and Packing Peaches in the	58	51	Trade Unloading South African Oranges	134
10	Niagara Peninsula, Ontario	60		A Few of Canada's Beauty Spots and	
20.	Operations in the Woods Squaring Big Timber in a Pacific	00	1	Tourist Attractions	136 - 7
40.	Coast Sawmill	61	53.	Making Canadian Coin at the Royal	
21.	The Pulp and Paper Industry	63		Canadian Mint	147
	Coal Mining in the Maritime Prov-		54.	Canadian Mint	149
		66	55.	Printing Sheets of Canadian Postage	157
23.	Night View of an Oil Well in the	72	20	Unemployment Relief	165
0.1	Turner Valley, Alberta Typical Canadian Hydro-Electric In-	14		New Arts Building, University of	100
24.	stallations	76	011	Manitoba	169
95	Electric Welding	78	58.	The National Research Council	172
26	The Salmon Fisheries of British		59.	Car Used for the Transportation of	
200	Columbia	80		Books of the Carnegie Demonstra-	4 70
27.	Columbia Lobster Fishing in New Brunswick	82	1	tion in P.E.I	173
28.	Government Fish Hatcheries	84	60.	Radio-Therapy	174
29	Muskrat Farming in Ontario	86	61.	Deep X-Ray Machine and Treatment Room in a Modern Hospital	177
	Silver Fox Undergoing Inspection for		62	Royal Military College	182
00	Registration	88	63	"C" Flight of No. 1 Fighter Squad-	
21	Acid Plant Utilizing Salvaged Smelt-		1	ron, Royal Air Force	183
01	er Gases, Copper Cliff, Ontario	89	64	Ontario Agricultural College	188
32	. In a Canagian Automobile Plant	93	65	. The Mace	192
	MAPS, DIAC	RA	MS	AND CHARTS	
	1	PAGE	1		PAGE
1	The Economic Situation of Canada	10	5.	Lithographed map of the distribution	1
				of leading racial origins	
2.	The Physical Volume of Business in Canada	12		Insert, facing p	. 26
		14	1 6.	Progress of Water-Power Development	t . 75
3.	Lithographed map of territorial evol-	16	-	in Canada, 1901-35 The Trend of Employment, 1926-34	161
	ution of Canada Insert, facing p.	10	0	Organization Chart of the Dominion	1
4.	Elements in the Growth and Com-	24-25	0.	Bureau of Statistics	184-5

INTRODUCTION

The Economic Position of Canada at the Close of 1934



Hon. R. B. Hanson, K.C., M.P.,

Minister of Trade and

Commerce.

The World Situation as it Affects Canada.

-Canada stands in the forefront of the general world-wide recovery that has been going on in 1934, according to the Chairman of the Advisory Council of the National Recovery Administration of the U.S.A., who bases his conclusion on statistics of industrial production, unemployment, wholesale prices and foreign trade. The latest World Economic Survey of the League of Nations shows that the industrial production of the leading industrial nations, adjusted for seasonal fluctuations, has risen from 63 p.c. to 77 p.c. of the high 1929 level between January, 1933, and June, 1934. Textile production, similarly adjusted, rose from 91 p.c. to 100 p.c. of the 1929 level between January, 1933, and April, 1934. Again, in spite of foreign exchange restrictions, quotas, tariff increases, etc., the volume of the world's international

trade stood at 74.8 p.c. of the 1929 level in the second quarter of 1934 as compared with 71.8 p.c. in the same period of 1933, an increase of over 4 p.c. It is to be noted that the increase in international trade has been much less than the increases in production.

On the whole, the improvement has been as large and more stable in the countries of the sterling bloc than in most others. In particular, the United Kingdom index number of industrial production stood in the third quarter of 1934 at 105·3 p.c. of the 1924 level as compared with 96·8 p.c. in the third quarter of 1933. British imports in the first ten months of 1934 amounted to £605,393,000 as compared with £549,218,000 in the same period of 1933 and British exports of domestic products to £325,756,000 as compared with £302,527,000. These increases in British trade are of special significance to us as representing the recovery of our largest customer with which we do business on a preferential basis so that the improvement in her condition is of special significance for Canada. It is also noteworthy that British trade tends to be done more and more largely within the Empire. In the first nine months of 1934, the percentage of total British imports coming from Empire countries other than the Irish Free State was 35.04 as compared with 34.69 and 31.44 in the same periods of 1933 and 1932 respectively. Also the percentage of British exports going

out to Empire countries other than the Irish Free State increased from 37.84 in the first nine months of 1932 to 38.90 and to 41.11 in the corresponding periods of 1933 and 1934 respectively. Thus the intra-Empire trade of the United Kingdom is increasing both absolutely and relatively to the total.

Canada in particular is benefiting by the preference she enjoys on her agricultural, forestry, fisheries and mineral products. Improvement has been shown in each of these industries in 1934 and that improvement may now be briefly reviewed.

Agriculture.—The field crop acreages of 1934 were reduced about 112 million acres in comparison with those of 1933. Yields per acre were again reduced by a variety of unfavourable conditions, so that total production was not much improved over that of 1933. Prices, however, have risen appreciably and the preliminary estimate of the value of the Canadian field crops was placed at \$536,498,600. This figure is nearly 113 milion dollars or 27 p.c. above the 1933 valuation and is, in fact, the highest since 1930. The greatest value increases are shown for the grains and forage crops, offset to some extent by a sharp decline in potatoes and lesser declines in sugar beets and grain hay. The wheat crop is valued \$36\frac{1}{2}\$ millions higher than in 1933, oats \$31 millions, barley \$10\frac{1}{2}\$ millions and hay and clover \$37 millions. If present prices for these crops are maintained through the balance of the marketing season, Canadian farmers will be in a much more hopeful position for the new season. Farmers in Quebec, Manitoba and Alberta benefited most from the higher prices. In the large agricultural provinces of Ontario and Saskatchewan, summer drought was a principal factor in reducing the harvests, and certain large districts in these provinces, but particularly in Saskatchewan, again suffered severely. Frost and wintry harvest weather reduced the grade of wheat in the northern districts of Saskatchewan and Alberta, but a fortunate increase in demand from the United States for feed wheats was of great benefit in raising prices and providing a market. Coarse grain prices have strengthened materially and exports are well above those of 1933.

The numbers of live stock on farms at June 1, 1934, showed little change compared with holdings a year ago. Horses continued to decline in numbers, while cattle continued to increase. The swine population moved downward as a result of heavy slaughterings, while sheep increased slightly in numbers for the first time in several years. Marketings of hogs and sheep have been lower and cattle and calves higher. Prevailing livestock prices have been slightly above those of 1933, with the United Kingdom market an important outlet for bacon and live cattle in particular.

Dairying has been a relatively profitable farm operation during most of 1934. Production of cheese has declined further during the year, but there have been increases in creamery butter and other dairy factory products. Poultry has also helped to supplement farm revenue; production of eggs has probably fallen slightly but prices of both eggs and dressed poultry have been above the 1933 levels during most of the year.

During 1934, the prices received by farmers for their products have risen more than the prices of goods which they have to buy. Debt adjustment, lower rates of interest on mortgages and better terms of payment were an important influence in the alleviation of the farmers' position during 1934 and promise to be more helpful in 1935. Apart from those districts which are in distress through continued drought, Canadian agriculture improved its position during the year.

Forestry.—Exports of forestry products in the twelve months ended October are valued at \$155,177,000, an increase of \$27,800,000, or nearly 22 p.c. over the previous comparable period. Exports to the United Kingdom and to the United States both increased. Exports of planks and boards amounted to 1,148,807,000 feet in the first ten months of 1934, an increase of nearly 41 p.c. over the same period of 1933. Newsprint production rose from 1,834,000 tons in the first eleven months of 1933 to 2,358,000 tons in the same period of 1934, an advance of 28 p.c. Employment in the logging industry stood at 198.6 on December 1, indicating a busy winter in the bush and a large anticipated demand for forest products.

Fisheries.—The current trend in the fisheries is best shown by the exports, which in the twelve months ended October, 1934, were valued at \$21,482,000, an increase of \$2,912,000 or nearly 16 p.c. over the corresponding period of 1933.

Mining.—In the first half of 1934, the production of metallic and non-metallic minerals totalled \$131,942,000, an increase of 45·5 p.c. over the same period of 1933. This increase was partly due to the high price of gold but there was an increase of about one-fifth in the physical quantity of mineral production in the first ten months of 1934 as compared with the same period of 1933. Employment in mining in the first eleven months showed an advance of 13·3 p.c. over 1933.

The preliminary official estimate of the value of the mineral production of Canada in 1934, released as this volume is on the press, indicates a total production of \$278,337,000, a remarkable increase of \$56,842,000 as compared with 1933 and of \$95,655,000 as compared with 1932. The increased production of the metals was mainly responsible for the increase, being \$45,652,000 larger than in 1933. The production of nickel, copper, lead and zinc all showed large increases in quantities as well as in values. For details see p. 68.

Electric Power.—The output of electric power in 1934 has far surpassed all previous records. Firms producing from 98 to 99 p.c. of the total for Canada report that their production in the first ten months of 1934 was 17,128 million kilowatt hours as compared with 14,143 million in the same period of 1933 and 14,496 million in the same period of 1929, the previous record. During the year there has been a considerable addition to the total installation of hydro-electric power in Canada.

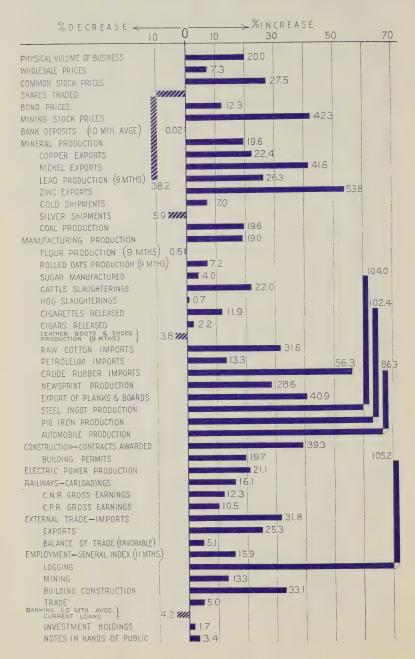
Manufacturing.—Manufacturing occurs in such an infinite variety of forms that it is difficult to express the advance of manufacturing in a single figure. However, it may be stated that in the first ten months of

THE ECONOMIC SITUATION OF CANADA

FIRST TEN MONTHS OF 1934

COMPARED WITH

THE SAME PERIOD OF 1933



1934 the physical volume of manufacturing production is estimated to have been 19.6 p.c., or practically one-fifth greater than in the same period of 1933. The iron and steel group of manufactures showed the greatest proportionate increase, steel ingot production being 104.0 p.c., pig iron production 102.4 p.c., and automobile production 86.3 p.c. larger than in the same period of 1933. Imports of crude rubber showed an increase of 56.3 p.c. and imports of petroleum an increase of 13.3 p.c. Employment figures indicate that the manufacturers of Canada employed on the average nine persons in 1934 for every eight that they employed in 1933.

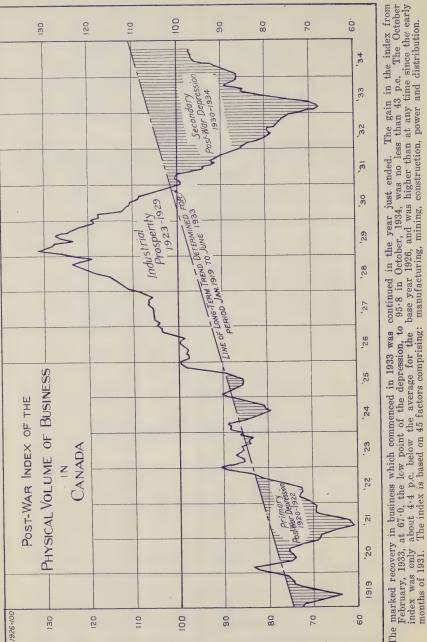
Construction.—The recovery of construction contracts to \$119,749,300 in the first eleven months of 1934 as compared with \$89,082,300 in the same period of 1933 is one of the most favourable signs on the economic horizon, showing as it does an increase of 34 p.c.; contracts however, are still at a relatively low level.

External Trade.—Merchandise exports of Canadian produce in the twelve-month period ended November, 1934, reached \$642,966,000 as compared with \$523,436,000 in its predecessor, an increase of \$119,530,000 or about 22.8 p.c. This increase has been of a general character and has covered practically all classes of commodities. Exports of gold bullion have also shown a large increase, being \$87,077,000 in the latest twelve-month period as compared with \$68,122,000 in its predecessor. Thus the grand total exports of Canada, including exports of foreign products have been \$737,209,000 in the latest period as compared with \$597,115,000 in its predecessor, an increase of over \$140,000,000.

Merchandise imports have reached \$509,730,000 in the latest twelve months as compared with \$394,808,000 in the preceding period, imports of iron and steel products showing a particularly satisfactory increase indicative of industrial recovery. Thus, after allowing for some small imports of coin and bullion and for exports of foreign produce, the total favourable balance of visible trade was \$226,658,000 in the latest twelvementh period as against \$201,772,000 in its predecessor and \$110,767,000 in the corresponding period of 1932.

As to distribution of trade, it is to be noted that in the twelvemonth period ended October, 42·2 p.c. of our merchandise exports went to the United Kingdom as compared with 38·9 p.c. one year ago and 34·8 p.c. two years ago. Similarly, total exports to Empire countries were 52·2 p.c. in the latest year as compared with 47·2 p.c. one year ago and 42·7 p.c. two years ago.

Railway Traffic.—The gross earnings of the Canadian National Railways (Canadian lines only) and the Canadian Pacific Railway in the first eleven months of 1934 totalled \$244,314,000 as compared with \$220,-200,000 in the same period of 1933, an increase of \$24,114,000 or 10.9 p.c., indicating improving business. Net operating revenues of all Canadian railways in the first nine months of the year were \$29,838,000 as compared with \$18,677,000 in the same period of 1933. The cars of



The marked recovery in business which commenced in 1933 was months of 1931.

revenue freight loaded on Canadian railways in the first 49 weeks of 1934 down to December 8, were 2,206,121, an increase of 278,022 cars or 14.5 p.c. over the same period of 1933.

Canal Operations.—The canals of the Dominion handled 17,822,120 tons of freight from the opening of navigation to the end of November, as compared with 18,649,845 tons in the corresponding period of 1933. The Welland Ship Canal created a new high record by handling 9,139,063 tons of freight, or 75,593 tons more than in 1933, owing largely to heavy shipments of bituminous coal, coke, iron ore and pulpwood more than offsetting the decrease in wheat.

The St. Lawrence canals handled 6,621,400 tons of freight as compared with 6,945,396 tons last year, the drop of 1,101,766 tons in shipments of wheat accounting for the decline. Again, while the total traffic through the Canadian and United States locks at Sault Ste. Marie to the end of November, 1934, was about 6 p.c. heavier than in 1933, the Canadian canal, on account of its smaller lock, showed a decline of 614,400 tons from 2,277,729 tons to 1,663,333 tons carried, eastbound wheat and flour and westbound coal showing reductions.

Shipping.—The tonnage of shipping entered and cleared at six leading ports of Canada, namely, Halifax, Saint John, Quebec, Montreal, Toronto and Vancouver, was 55,037,000 tons in the first ten months of 1934, an increase of about 3 p.c. over the same period of 1933. The cargo tonnage at 5 of these ports showed an increase of 8 p.c. in the same period.

Prices.—There was a moderate rise in prices in the last twelve-month period from 68·9 in November, 1933, to 71·2 in November, 1934, an increase of 3·3 p.c., while the gap between the prices of raw and manufactured commodities was narrowed, indicating better relations between the returns to primary and secondary producers. Together with these there was a notable reduction in the price of money, the yield of Ontario bonds in November, 1934, being on a 3·88 p.c. basis as compared with a 4·66 p.c. basis in the same month of 1933. This constitutes a decline of 17 p.c. in interest rates and thus tends to promote productive activity.

Public Finance.—The ordinary revenue in the first eight months of the current fiscal year was \$245,063,000, an increase of \$28,160,000, or approximately 13 p.c. over the same period of last year. The ordinary revenue this year was \$1,605,000 in excess of ordinary expenditures, whereas last year it was \$22,114,000 less than ordinary expenditures, so that material progress has been made in the financial stability of the Dominion. This is indicated by the low rates at which the Dominion is now able to raise money. Thus the recent loan of \$250,000,000 replacing the $5\frac{1}{2}$ p.c. 15-year victory bonds of 1919 was raised in four maturities of 2, 5, 8 and 15 years yielding to the purchaser $2 \cdot 57$, $2 \cdot 90$, $3 \cdot 43$ and $3 \cdot 81$ p.c., respectively. The net result of the voluntary conversion of these bonds in 1931 and their replacement at maturity in 1934 has been a saving of \$7,552,000 to the Treasury, while the total saving of interest charges to the Treasury through conversions in the last four years has aggregated \$14,616,000.

Banking.—The two most salient features of Canadian banking in 1934, apart from the creation of a central bank, the Bank of Canada, have been the maintenance, indeed the increase, of savings deposits in spite of reductions in interest rates. Savings or notice deposits on October 31 were \$1,370,179,000 as compared with \$1,349,769,000 on the same date of 1933. Also current loans, which had been steadily on the decline ever since 1929, reached their recent low point of \$850,637,000 on July 31, and have subsequently increased to \$895,729,000 on October 31.

Business Transacted.—The most comprehensive figure indicative of the amount of business transacted in Canada is the bank debits charged to individual accounts in the 32 clearing house centres of the Dominion. The aggregate of these bank debits in the first eleven months of 1934, was \$29,826,500,000, an increase of \$2,337,000,000 or 8.5 p.c. as compared with the corresponding period of 1933.

Employment.—While employment is as yet in a by no means satisfactory condition, there has been very great improvement in the past twenty months between April 1 of 1933 and December 1 of 1934. The employees of the reporting firms increased from 698,000 to 925,000, though this was partly due to the inclusion of additional firms. As between December 1 of 1933 and December 1 of 1934, the improvement was from 850,000 to 925,000 while the index number of employment, which allows for the added firms, rose from 91.8 to 98.9. The firms reporting these employees are roughly those with fifteen or more employees in eight industrial groups, namely: manufactures, logging, mining, transportation, communications. construction, services and trade. Allowing for additional employment by smaller non-reporting firms, which are especially numerous in the lastnamed industries, the above eight industries probably employed 140,000 workers more on December 1 of 1934 than on the same date of 1933. Particularly gratifying has been the fact that during the fall months of the year up to November the ordinary seasonal decline in employment has been conspicuous by its absence, while the decline on December 1 was less than the usual seasonal reduction.

Conclusion.—It may be affirmed with confidence that Canada commences the New Year with prospects much improved from those of any other recent year since the commencement of the depression. The complete restoration of prosperity, however, still waits upon the laying aside of international jealousies and the recovery of international trade and international finance throughout the world.

CHAPTER I

THE TERRITORIAL EVOLUTION OF CANADA

New France, when at the zenith of her territorial expansion at the opening of the eighteenth century, embraced in her claims practically the whole of the St. Lawrence and Mississippi basins. Only the Atlantic coastal area, which constituted the New England, the central, and the southern English colonies, together with Newfoundland and Rupert's Land, were claimed by the English in North America, although there were minor English possessions in Central America. New Spain adjoined New France on the southwest. (See Map 1, facing p. 16.) The New England, the central and the southern English colonies were bounded on the northwest by the Iroquois lands along the Ohio, on the south by Florida, and were undefined towards the west. The French claimed the territory east of the Mississippi to the Alleghany mountains but the Royal Charters granted to the colonists had vaguely extended their territory from "sea to sea" and therefore brought the English into vital conflict with the French in this disputed area. It was, however, the alliance between the Iroquois and the English much more than the Charter stipulations, which was instrumental in deciding the issue in favour of the English.

In the north, Rupert's land, which had been Hudson's Bay Company domain since 1670, bordered Hudson bay and strait, but the inland boundaries were not specifically defined although generally understood by the British to follow the watershed. The French, however, disputed with the British a large area in the southern part of this watershed. Newfoundland was English by right of discovery and, since 1621, by colonization,

but France disputed Great Britain's claims until 1713.

By the Treaty of Utrecht, which ended the war of 1702-13, (generally known as Queen Anne's War), between France and Britain,* France surrendered her interests in Newfoundland and returned Acadia (which between 1654 and 1667 had been English territory) to Britain. She also relinquished any claims she might have had to the Hudson Bay watershed. The British succeeded, at Utrecht, in getting an acknowledgment of their sovereignty over the Iroquois from the French, thus greatly strengthening their former claims, based on their Charter rights, westward from the Alleghany mountains.

The next great readjustment in the boundaries of North America was made by the Treaty of Paris in 1763, following Wolfe's conquest of Quebec and marking the end of the Seven Years' War. France now definitely withdrew from the mainland of North America. She ceded to Spain all the territory in the Mississippi basin west of the Mississippi river, and to Britain all French territory east of the Mississippi except New Orleans, which went by secret treaty to Spain. Spain ceded Florida to Britain and the latter country restored certain conquests in Cuba to Spain. British territory, therefore, now included: the Hudson Bay watershed, the entire St. Lawrence basin including the Great Lakes, the Mississippi basin east of the Mississippi river, the Atlantic and Gulf of Mexico coasts from Labrador to the Mississippi delta, and Newfoundland to which Labrador was transferred.

^{*}The early colonies were "English," not "British". They became "British" after the union of Scotland with England in 1707.

The English colonists along the Atlantic had now succeeded in dislodging the French from their position athwart the westward avenue of expansion recognized by their Charters. The colonists had aided in the conquest of Canada but whatever hopes they entertained that the St. Lawrence valley would be a free field for their expansion northward were

doomed to disappointment.

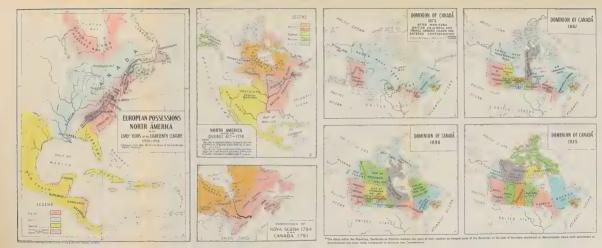
Before February 10, 1763, when the Treaty of Paris was signed, the British authorities had pledged the continuance of seigneurialism in Canada. By the Treaty, the additional liberty of the Roman Catholic religion was granted to the French inhabitants. The form of government was definitely decided by the Proclamation of October 7, 1763, when Civil Government was instituted under a Governor to be assisted by a Council composed of British officials and eight persons to be chosen by the Governor from the inhabitants of the colony.

By the Quebec Act of 1774, Labrador was restored to the Province of Quebec and the boundaries of the old province were defined as extending north to the Hudson's Bay Company's territory, south to the borders of the English colonies (the Ohio) and west to the Mississippi*—to the further disappointment of the English colonists who, even after the Treaty of Paris, had looked upon the area lying south of the Great Lakes and between the fork of the Ohio and the Mississippi as a legitimate extension

of their own territory. (See Map 2, facing this page.)

Following the Treaty of Versailles in 1783, the United States of America came into being and the boundary of the former English colonies was extended by the treaty to include all this territory between the Ohio and the Mississippi rivers. The mainland boundary, from east to west, as set forth was: the St. Croix river to its source, thence due north to the Highlands, thence along the watershed, which divides the rivers which flow into the Atlantic, from those which flow into the St. Lawrence, to the head of the Connecticut river; thence down that river to the 45th parallel of N. latitude; due west along this line until it strikes the St. Lawrence; through lakes Ontario, Erie, St. Clair, Huron, and across Superior northwest of the isles Royale and Phelipeaux to Long lake; thence through the connecting water-communication to lake of the Woods; and from the northwest point thereof to the Mississippi river. This boundary was based in part upon boundaries of Nova Scotia and Quebec as previously defined, but, in spite of the fact that the best had been done, under conditions existing at the time, to define the boundary clearly, future disputes were inevitable, since the negotiators did not agree upon, nor attach to the treaty, an official map.

^{*}The western boundary of the "Province of Quebec" was defined very vaguely in the Quebec Act, and, nearly a century later, when the exact boundary of the province of Ontario was being defined subsequent to the creation of the province of Manitoba. was the cause of dispute between the Dominion and Ontario. The Quebec Act enacted that the western boundary should run "northward [from the confluence of the Ohio and Mississippi rivers] to the southern boundary of the territory granted to the Merchants Adventurers of England trading to Hudson's Bay". It is significant, however, that in the commission issued to Sir Guy Carleton, who was appointed Governor of Quebec in 1774, the boundary is set forth as running "northward [from the confluence of the Ohio and Mississippi rivers] along the eastern bank of the said river [Mississippi] to the southern boundary" of the Hudson's Bay Company's territories. Again, the British Parliament in 1789 determined that the western boundary of the Province was the Mississippi river and not the meridian of the mouth of the Ohio.





Subsequent definitions of the eastern part of the boundary were made by several separately appointed commissions. There was doubt about: the boundary between the Passamaquoddy islands; which river was the St. Croix; the point of its source whence the "Due North Line" was to be drawn; the "Highlands Line" (an unfortunate term since no highlands could be found where the crude maps of 1783 had indicated them). The height of land south of the St. John river was held by Great Britain to be the line intended, since it was clear from the treaty of 1783 that the "Due North Line" from the St. Croix river to the "Highlands" was to meet the northwest angle of Nova Scotia (wherever that might be) not to be extended through what was recognized British territory. This (the line of Great Britain) divided the rivers flowing into the St. John from those flowing into the Atlantic farther south. The United States held to the view that the "Highlands" meant the southern watershed of the river St. Lawrence and that the Magaguadavic river was the St. Croix of the treaty. The controversy was prolonged and at times bitter. In 1831, the King of the Netherlands, under Article V of the Treaty of Ghent (1814) which marked the close of the War of 1812, was appealed to as a disinterested outsider for an award. He recommended a "line of convenience" between the British and the United States claims which agreed fairly closely with the boundary of to-day. Still the Maine Boundary question remained unsettled until 1842 when the Ashburton Treaty was signed at Washington. Maps 3, 4, 5, 6 and 7 facing page 16 show the approximate position of the Maine boundary as finally adjusted, but Nova Scotia in 1783 encompassed all that part of the mainland east of Chaleur bay and the State of Maine, and included Cape Breton island but not Prince Edward island (or St. John's island, as it was then named) which had been separated from Nova Scotia since 1769. On the west coast of the continent, Captain Cook between 1776 and 1779 had discovered and explored the coast from about latitude 45° N, to Bering strait but the coast above 55° N. had been recognized as Russian since 1741.

In 1784, New Brunswick was established as a separate colony, the division from Nova Scotia being made from the Cumberland arm of the bay of Fundy across the Chignecto isthmus to Baie Verte and Cape Breton island was separated, politically, from Nova Scotia. The division of the Province of Quebec was next considered advisable from a standpoint of local government, since the conclusion of peace with the United States in 1783 had brought a great influx of "loyalists" to the territory between lakes Erie, Ontario and Huron. The Constitutional Act of 1791 authorized the division of the Province of Quebec. An Imperial Order in Council of the same year established the two districts of Upper Canada and Lower Canada, the boundary running from lake St. Francis northward to the Ottawa river, which was followed to lake Timiskaming, thence due north to the Hudson's Bay.* The Canadas were again united, however, in 1840 to remain one until Confederation. The boundaries as understood in 1791 are shown on Map 3, facing p. 16.

^{*}The Order in Council, in reference to this line north of lake Timiskaming, stated: "and from the head of the said Lake [Timiskaming] by a line drawn due north until it strikes the boundary line of Hudson's Bay" (Italies adopted for emphasis). Later this sentence was interpreted to mean the shore of Hudson bay, but the late James White indicates in his article on the Ontario-Manitoba boundary, Canada and Its Provinces (Vol. VIII, pp. 893-4), that this interpretation was a misconception and that the original intention was to the boundary of the Hudson's Bay Company's territory. 84490-2

In the intervening years between 1791 and Confederation, there was a continued and steady westward and northward extension of the boundaries of British North America. In 1821 the Hudson's Bay Company and the aggressive North West Company, which latter company explored and exploited the Pacific and Arctic watersheds, joined resources under the name of the older company. Their leases now extended from Rupert's Land to Russian America and the Pacific coast. Alexander I of Russia had issued a Ukase in 1821 granting rights of "commerce, whaling and fishery, and of all other industry" on the North American coast between Bering strait and latitude 51° N. to Russian subjects exclusively and prohibiting foreigners from approaching the coast within 100 miles. Protests were lodged by both Great Britain and the United States and the right of Russia to forbid navigation within 100 miles of the coast was stoutly denied, but, whereas the United States denied in toto the Russian claim south of latitude 55° N. and even felt that she, herself, had some claim to the coast as high as 61° by virtue of the Treaty of Florida Blanca (1819) whereby Spain ceded to the United States all her rights and claims north of latitude 42° N., Great Britain, by right of priority of discovery and the forts established by the North West Company and the Hudson's Bay Company, claimed the coast to approximately 58° N. latitude. Vancouver and other British seamen had followed Cook in exploring the Pacific coast. Moreover, south of the Columbia, the "Oregon Country" was about that very time a matter of dispute between Great Britain and the United States, and Great Britain had refused to accept latitude 49° N. as her southern boundary with that country.

Negotiations with Russia were carried on separately by the United States and Great Britain and, finally, treaties were signed by these countries in 1824 and 1825 respectively. The treaty between Russia and Great Britain (1825) defined the line of demarcation between Russian and British territory as commencing from the southernmost part of Prince of Wales island eastward to the Portland Canal and up the canal to the 56th parallel of north latitude, thence along the summits of the mountains paralleling the coast as far as 141° W. longitude, and along that meridian to the Arctic ocean. The southern boundary between British territory and the United States remained in dispute until the final settlement in 1846, when the 49th parallel of north latitude was followed to the coast but the whole of Vancouver island went to Great Britain. Vancouver island was made a colony in 1849 and in 1858 the mainland extending north from the International Boundary to the Skeena and Finlay rivers and east to the Rockies passed from the Hudson's Bay Company to the Crown as a separate

colony. (See Map 4, facing p. 16.)

In the heart of the continent, Lord Selkirk was granted 116,000 square miles of territory by the Hudson's Bay Company in 1811. The area comprised the Red River valley, one of the most fertile districts in North America, and the purpose of the grant was for settlement. After many trials and in the face of much opposition, the settlement finally prospered but not until after the founder's death. When, in 1818, the International Boundary to the Rockies was the subject of a convention between the United States (which in 1803 had purchased the Louisiana Territory from France who in turn had secured it from Spain by secret treaty in 1800) and Great Britain, the southern part of the Selkirk Grant was absorbed into the Dakotas and Minnesota. Nevertheless, it was the fact of this established settlement and the vested interests of the settlers that played a large part in safe-guarding the ideal of a British transcontinental dominion. The

establishment of the central part of the settlement as the province of Manitoba—a part of the Dominion within the British connection—was finally arranged. This did not take place until 1870, after the Hudson's Bay Company had surrendered to the Crown all territorial rights in the Northwest (1869). Meanwhile, in 1866, the union of the colony of Vancouver island with British Columbia took place and the northern boundary of British Columbia was extended to the 60th parallel of latitude. In 1871 British Columbia entered Confederation and Prince Edward Island followed in 1873. Map 4, facing p. 16, shows the Dominion of Canada at this time (1873) the northern boundaries of Ontario and Quebec being those generally understood at Confederation, although later the province of Ontario made good its claim to the northward as far as James bay (see next paragraph and also footnote, page 17) and this in turn involved the determination in 1898 of the northern boundary of Quebec as the East Main river (see page 20). British rights to the Arctic islands were handed over to the Dominion of Canada in 1880.

Between 1873 and 1889 much confusion existed between the boundaries of Ontario and Manitoba. The western boundary of Manitoba was extended to the 100th meridian of longitude by Dominion Act of 1877. In 1878, the Ontario boundary question was referred to arbitration. The award of the arbiters set the northern boundary as the Albany and English rivers and extended the western boundary to the longitude of the northwest angle of the lake of the Woods. Ever since the Quebec Act of 1774 there had been some doubt as to whether the western boundary of what was now Ontario was the extension of a "Due North Line" from the confluence of the Ohio and the Mississippi or a "Due North Line" from the head waters of the Mississippi, the continuation of which latter line was now awarded.*

A change of government in the Dominion prevented the passage of legislation implementing the decision and, in 1881, the boundary of Manitoba was set by Dominion Act to about the 53rd parallel of latitude on the north, and to the extension of the "Due North Line" from the confluence of the Ohio and the Mississippi rivers on the east, which was the western boundary of Ontario according to the contention of the Dominion. The Ontario-Manitoba boundary question was finally decided in 1884 by the Imperial Privy Council, which confirmed the arbitration award of 1878. The eastern boundary of Manitoba therefore was now definitely fixed and fell along the extension of the "Due North Line" from the source of the Mississippi. An imperial Act of Parliament, passed in 1889, confirmed this decision.

As regards the Northwest Territories, in 1876 a Provisional District of Keewatin was carved out north of Manitoba and west of Hudson bay to the Arctic ocean. In 1882 the Districts of Saskatchewan, Assiniboia, Alberta and Athabaska were created. All these boundary decisions are shown in Map 5, facing p. 16. Russia had sold her American possessions to the United States in 1867, after which an effort was made by Great Britain to have a joint survey made of this boundary, demarcating the line described in the treaty with Russia in 1825. Such a survey, north to the 141st meridian of west longitude, was carried out under the Boundary Survey Conventions of 1892 and 1895, prior to a boundary settlement, by two commissioners, one representing Great Britain and one representing the United States. The demarcation of the 141st meridian was provided for in 1897, but the actual boundary had still to be officially agreed upon.

^{*} See footnote on page 16. 84490—2½

In the meantime, the discovery of gold in the valley of the Klondike river in 1896 had emphasized the importance of the Chilkoot and White passes, at the head of the Lynn Canal, as gateways to Upper Yukon. Miners in tens of thousands were entering the gold fields and, since Canada claimed the territory at the head of the Lynn Canal while United States' revenue officers ruled that their regulations forbade the landing of British vessels anywhere on the shores of that inlet, much friction ensued. By agreement, Dyea and Skagway were made sub-posts of entry but the importance of finally defining the boundary, especially in this area, was recognized. In 1898 and 1899 outstanding differences were referred to a Joint High Commission, but the commission separated without settling the points at issue. Later, in October 1899, a provisional boundary was fixed at the summits of the Chilkoot and White passes and the Chilkat river at its junction with the Klehini river. Under the Alaska Boundary Convention (1903) reference of points in dispute was again made to a tribunal of "six impartial jurists of repute", three to be appointed by the British Government and three by the United States' Government The most acute differences of opinion centered in the area at the head of the Lynn Canal and in the Portland Canal section. The final award of 1903 was a compromise of the positions taken by the two Governments. In the important Lynn Canal area, the United States secured an adjustment of the provisional line. The final line crosses the Chilkat river about twenty miles further upstream from the Klehini river. In the Portland Canal section the final line was drawn down the centre of the canal but at its mouth Wales and Pearce islands went to Great Britain and Sitklan and Kannaughunut islands to the United States.

Between 1895 and 1897 what now remained of the Northwest Territories was divided into the Administrative Districts of Mackenzie, Ungava, and Franklin, and the District of Keewatin was enlarged to take in that portion of the Northwest Territories due north of Ontario. Yukon, where an important gold-mining industry was rapidly growing, was created a District by Order in Council of 1895. The northern boundary of Quebec was determined as following the East Main river eastward to Labrador, and Yukon District became a Territory, in 1898. Map 6, facing p. 16

indicates these changes.

The year 1905 marked the rise of Alberta and Saskatchewan to provincial status, embracing the former Districts of Athabaska, Alberta, Saskatchewan and Assiniboia. In 1912 the boundaries of Manitoba and Ontario were extended to their present positions and Quebec absorbed the remainder of Ungava. In 1927, the boundary between the Dominion of Canada and Labrador was finally settled by the Imperial Privy Council. It had formerly been maintained by Canada that Labrador was confined to a narrow strip along the Atlantic coast, but Newfoundland, to which the area had been re-transferred from Quebec by the Labrador Act of 1809, claimed a much larger area. Certainly in 1809 Labrador included Anticosti, and some other smaller islands in the St. Lawrence, as well as the north shore of the Gulf west from Belle Isle strait to the St. John river which enters the St. Lawrence opposite to the western tip of Anticosti island. The Labrador Act of 1825, however, had re-annexed Anticosti, the Magdalen islands and the north shore, from the St. John river to Anse Sablon, near the strait of Belle Isle, to Lower Canada. The Privy Council now ruled that Labrador extended inland to the Atlantic Ocean-Hudson Bay and Strait watershed and the boundaries defined were those shown on Map 7, tacing p. 16.

CHAPTER II

POPULATION—BIRTHS, DEATHS AND MARRIAGES—IMMIGRATION—ABORIGINAL RACES

Population

The population of the earth is estimated at approximately 2,000,000,000.* The British Empire which covers slightly less than one-quarter of the land area of the earth, has slightly less than one-quarter of the world's population, but Canada, which occupies over one-quarter of the area of the British Empire, or about one-sixteenth of the land area of the earth has only about one-forty-eighth of the population of the former or roughly one-two hundredth that of the latter. While there is no absolute standard for population density, so much depending on extent of resources, the rate of increase in productivity of land as a result of invention, etc., a certain minimum density is desirable and even necessary to effective social and political life. As far as Canada is concerned such a minimum effective density is far from having been attained in the country as a whole.

Areas and Populations of the British Empire, and its Principal Component Parts for 1931, or latest year available, Compared with 1921

Country	Area in	Population,	Population,	
	Square	Census of	Census of	
	Miles	1921	1931	
British Empire. United Kingdom of Great Britain and N. Ireland England. Wales. Scotland. Northern Ireland. Irish Free State Canada. Union of South Africa. Australia. New Zealand. New Wealand. Newfoundland and Labrador. India.	12,888,850 94,500 50,900 7,400 30,500 5,400 27,137 3,694,863 471,917 2,974,581 104,751 162,734 1,805,332	449,583,000 44,151,196 35,230,225 2,656,474 4,882,497 } 4,354,000 ² { 8,787,949 6,928,580 5,435,734 1,218,913 262,938 318,942,480	497,881,0001 46,200,000 37,354,917 2,593,014 4,842,554 1,251,0003 2,957,0003 10,376,786 8,192,0004 6,630,6005 1,513,4166 281,5497 352,837,778	

¹ These Empire population figures are computed from the census figures for 1931, or the official estimates as at Dec. 31, 1931, (where census figures are not available) of the respective Dominions and Colonies, mandated territories and condominiums published in the League of Nations Year Book. ² Official estimate 1921. This covered the whole of Ireland. ³ Official estimate 1931. 4 Official estimate 1932. A census of European population only, taken May, 1931, gave 1,827,166 compared with 1,519,488 in 1921. ⁵ Census of June 30, 1933. The figures are exclusive of full-blooded Australian aborigines. The 1931 census was postponed. ⁵ Official estimate of mean population of 1931; census postponed. ⁵ Official estimate of Dec..31, 1931, including 4,264 as the population of Labrador.

In addition to growth and racial composition an important consideration which should receive attention in any detailed study of population is the distribution of population as between the various age-classes, and the effects of immigration and emigration, birth rate and mortality on the

^{*}The Statistical Year Book of the League of Nations, 1933-34, gives the population of the world as 2,041,600,000 not including estimates of certain populations, chiefly in Asia and Africa where censuses are incomplete or do not exist.

age-groups. Space, however, permits only of the broadest treatment of Canada's population as affording a measure of the general economic progress of the country.

Historical.—The credit of taking what was perhaps the first census of modern times belongs to Canada, the year being 1666 and the census that of the little colony of New France. A population of 3,215 souls was shown. By the date of the Conquest, nearly a hundred years later, this had increased to 70,000, what is now the Maritime Provinces having another 20,000. Later came the influx of the Loyalists and the gradual settlement of the country, and Canada began the nineteenth century with a population of probably 250,000 or 260,000. Fifty years later the total was about 2,400,000 for the territory now included in the Dominion of Canada. Rapid development followed and the first census after Confederation (1871) saw the Dominion launched with a population of 3,689,257.

Statistics of Population in Canada, Census Years 1871 to 1931

Province or Territory	1871	1881	1891	1901	1911	1921	1931
Ontario. Quebec. New Brunswick. Nova Scotia. British Columbia. Prince Edward Island Manitoba. Saskatchewan. Alberta. Yukon. N.W.T.¹. Canada.	1,620,851 1,191,516 285,594 387,800 36,247 94,021 25,228 	1,926,922 1,359,027 321,233 440,572 49,459 108,891 62,260 	2,114,321 1,488,535 321,263 450,396 98,173 109,078 152,506 - - 98,967 - 4,833,239	1,648,898 331,120 459,574 178,657 103,259 255,211 91,279 73,022 27,219 20,129	2,527,292 2,005,776 351,889 492,338 392,480 93,728 461,394 492,432 374,295 8,512 6,507 7,206,643	2,933,662 2,360,665 ² 387,876 523,837 524,582 88,615 610,118 757,510 588,454 4,157 7,988	3,431,683 2,874,255 408,219 512,846 694,263 88,038 700,139 921,785 731,605 4,230 9,723

¹ The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and Yukon and to extend the boundaries of Quebec, Ontario and Manitoba. ² Revised in accordance with the Labrador award of the Privy Council, Mar. 1, 1927; total includes 485 members of the Royal Canadian Navy.

After 1873 and until the end of the century economic conditions within the Dominion were anything but buoyant. The censuses of 1881, 1891 and 1901 reflected this state of affairs. That of 1881 showed a gain of 635,553 or 17·23 p.c., but in neither of the next two decades was this record equalled, the gains in each being under 550,000 or 12 p.c. At the end of the century the population of Canada had reached but 5½ millions, though expectation had set a figure very much higher as the goal for 1900.

Analyses of Growth.—The general rate of population increase in Canada in the opening decade of the present century was 34 p.c., the greatest for that decade of any country in the world. In the second decade the rate was 22 p.c., again the greatest with the one exception of Australia, whose growth was greater by a fraction of 1 p.c. A century earlier the United States grew 35 p.c. decade by decade until 1860, but with this exception there has been no recorded example of more rapid national progress than that of Canada in the twentieth century. In 1871, only 2.96 p.c. of the population dwelt west of the lake of the Woods. In 1921 the proportion was 28.37 p.c. and in 1931, 29.50 p.c.—3,061,745 people compared with 110,000 at Confederation.

As between rural and urban distribution the change is perhaps more striking than in any other field. Though we are still largely agricultural, our town dwellers now, for the first time, exceed the numbers living upon the land (5,572,058 urban and 4,804,728 rural in 1931). Sixty years ago the towns and cities of Canada accounted for only 19.58 p.c. of the people (722,343 urban and 2,966,914 rural), and at the beginning of the present century the percentage was but 37. In 1871 the Dominion had 14 cities, 49 towns, and 134 villages; in 1921 there were 101 cities, 461 towns, and 881 incorporated villages; and in 1931, 112 cities, 478 towns and 1,016 incorporated villages. It is the larger cities that have grown the fastest.

Rural and Urban Population.—For the purposes of the census, the population residing in cities, towns and incorporated villages has been defined as urban, and that outside of such localities as rural. On the basis of this classification, urban communities absorbed somewhat over two-thirds of the total increase in population between 1921 and 1931, with the result that the urban population of Canada in 1931 exceeded the rural by 767,330. Out of every 1,000 persons in the country, 463 were resident, on June 1, 1931, in rural and 537 in urban communities, as compared with 505 in rural and 495 in urban communities on June 1, 1921. Details of the population of all cities and towns having 15,000 inhabitants and over, are given by censuses from 1891 to 1931 in a second table.

All the larger cities have in their neighbourhoods growing "satellite" towns or other densely settled areas in close economic relationship with the central municipality. Computed on this basis of "metropolitan area", the total populations of the larger cities at the census of 1931 were as follows: "Greater Montreal", 1,000,157; "Greater Toronto", 808,864; "Greater Vancouver", 308,340; "Greater Winnipeg", 280,202; "Greater Ottawa" (including Hull), 175,988; "Greater Quebec", 166,435; "Greater Hamilton", 163,710; "Greater Windsor", 110,385; "Greater Halifax", 74,161, and "Greater Saint John", 55,611.

Rural and Urban Populations, by Provinces, 1921 and 1931

Province or Territory	19	21	19	31	Numerical Increase in Decade 1921-31		
Trovince of Territory	Rural	Urban	Rural	Urban	Rural	Urban	
Prince Edward Island	296, 799 263, 432 1,038,096 1,227,030 348,502 538,552 365,550 277,020 2,851 7,988	19,093 227,038 124,444 1,322,569 1,706,632 261,616 218,958 222,904 247,562 1,306	. 67,653 281,192 279,279 1,060,649 1,335,691 384,170 630,880 453,097 299,524 2,870 9,723	20,385 231,654 128,940 1,813,606 2,095,992 315,969 290,905 278,508 394,7391 1,360	- 1,869 -15,607 15,847 22,553 108,661 35,668 92,328 87,547 22,504 19 1,735	1, 292 4, 616 4, 496 491, 037 389, 360 54, 353 71, 947 55, 604 147, 177 54	
Canada	4,435,827	4,352,122	4,804,728	5,572,058	368,901	1,219,936	

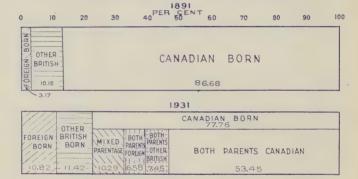
¹ This includes South Vancouver and Point Grey, with 1921 populations of 32,267 and 13,736 respectively, which were then classified as "rural".

² Members of the Royal Canadian Navy were counted at their homes in the census of 1931.

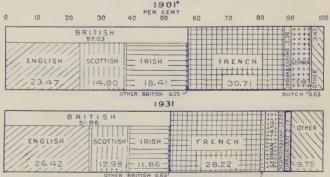
ELEMENTS IN THE GROWTH AND COMPOS OF THE CANADIAN POPULATION

1891-1931

NATIVITY OF TOTAL POPULATION

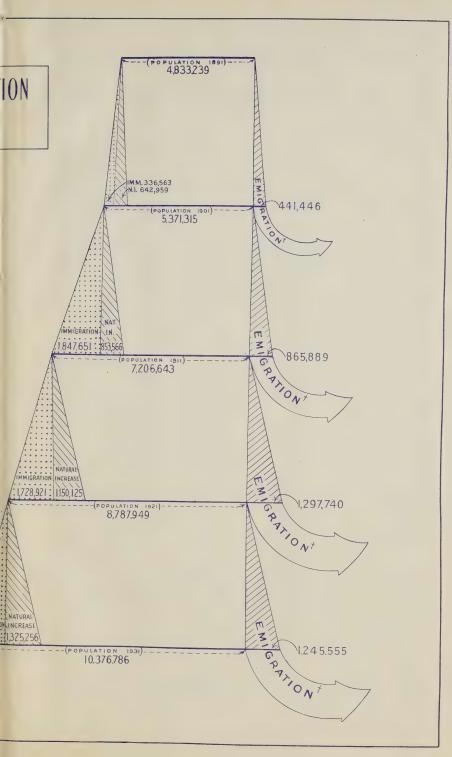


RACIAL ORIGINS OF TOTAL POPULATION



*Racial Origins were not taken in the Census of 1891.

Emigration figures are estimates made by the Dominion Bureau of Statistics.



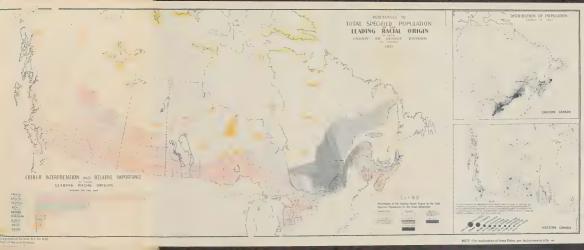
Populations of Cities and Towns having over 15,000 Inhabitants in 1931, Compared with 1891, 1901, 1911 and 1921

Note.—The cities and towns in which a Board of Trade exists are indicated by an asterisk (*) and those in which there is a Chamber of Commerce by a dagger (†). In all cases the populations for previous censuses have been rearranged as far as possible to compare with those of the same areas in 1931.

City or Town	Province			opulation	ns	
		1891	1901	1911	1921	1931
†Montreal	Quebec	256,723	328, 172	490,504	618,506	818,57
Toronto	Ontario	181,215	209,892	381,833	521,893	631,20
Vancouver	British Columbia	13,709	29,432	120,847	163,220	246,59
Winnipeg	Manitoba	25,639	42,340	136,035	179,087	218,78
HamiltonQuebec	OntarioQuebec	48,959 63,090	52,634	81,969	114, 151	155,54
Ottawa	Ontario	44, 154	68,840 59,928	78,710 87,062	95, 193 107, 843	130,59
Calgary	Alberta	3,876	4.392	43,704	63,305	83.76
†Edmonton	Alberta	0,010	4,176	31,064	58,821	79.19
London	Ontario	31,977	37.976	46,300	60,959	71.14
Windsor	Ontario	10,322	12,153	17,829	38,591	63,10
Verdun	Quebec	296	1,898	11,629	25,001	60.74
Halifax	Nova Scotia	38,437	40,832	46,619	58,372	59,27
Regina	Saskatchewan	-	2,249	30, 213	34,432	53,20
Saint John	New Brunswick	39,179	40,711	42,511	47,166	47,51
Saskatoon	Saskatchewan		113	12,004	25,739	43,29
Victoria	British Columbia	16,841	20,919	31,660	38,727	39,08
Three Rivers	Quebec	8,334	9,981	13,691	22,367	35, 48
Brantford	Ontario	7,425 $12,753$	9,747 16,619	15,196 23,132	21,763 29,440	30,79
Hull	Quebec	11,264	13,993	18,222	24,117	29.43
Sherbrooke	Quebec	10,097	11,765	16,405	23,515	28, 93
Outremont	Quebec	795	1.148	4,820	13,249	28.64
Fort William	Ontario	2.176	3,633	16,499	20,541	26, 27
St. Catharines	Ontario	9,170	9,946	12,484	19,881	24,75
Westmount	Quebec	3,076	8,856	14,579	17,593	24, 23
Kingston	Ontario	19,263	17,961	18,874	21,753	23,43
Oshawa	Ontario	4,066	4,394	7,436	11,940	23,43
Sydney	Nova Scotia	2,427	9,909	17,723	22,545	23,08
Sault Ste. Marie	Ontario	2,414	7,169	14,920	21,092	23,08
Peterborough	Ontario	9,717	12,886	18,360	20,994	22,32 $21,29$
Guelph	SaskatchewanOntario	10,537	1,558 11,496	13,823 15,175	19,285 18,128	21, 28 $21, 07$
Glace Bay	Nova Scotia	2,459	6,945	16,562	17,007	20.70
Moneton	New Brunswick	8.762	9.026	11.345	17,488	20, 68
Port Arthur	Ontario	2,698	3,214	11,220	14,886	19,8
Niagara Falls	Ontario	3,349	5,702	9,248	14,764	19,04
Lachine	Quebec	4,819	6,365	11,688	15,404	18,63
Sudbury	Ontario	-	2,027	4,150	8,621	18,51
Sarnia	Ontario	6,692	8,176	9,947	14,877	18,19
Stratford	Ontario	9,500	9,959	12,946	16,094	17,74
New Westminster	British Columbia	6,678	6,499	13,199	14,495	17,52
Brandon	Manitoba	3,778	5,620	13,839	15,397	17,08
	Manitoba	1,553	2.019	7,483	12,821	16,30 15,52
	Ontario	1,848 10,366	2,530 11,485	7,737 14,054	10,692 16,026	15, 52

Racial Origins.—The object of securing information on racial origin at the census is to ascertain from what basic ethnic stocks the Canadian population, more particularly the recently immigrated population, is derived. The answer "Canadian" is not accepted under this heading, as the purpose of the question is to obtain, in so far as possible, a definition of "Canadian" in terms of racial derivation. It is clear that to accept the answer "Canadian" to the question on racial origin would confuse the data and defeat the purpose for which the question is asked.

Racial Distribution.—The total increase in population over the decade 1921-31 was 1,588,837. The population of English origin increased by only 196,061 compared with 722,208 in the previous decade; that of Scottish



Explanation of Plates

The coloured plate on the reverse side of this sheet shows the percentage to total population of the leading racial origins in each county or census division in Canada, as shown by the census of 1931. In the unorganized parts to the north of the organized census divisions, the leading racial origins have been "spotted" to approximately coincide with the areas of concentration. While people of English origin show a plurality in most ρf the counties and census divisions, it will be noticed from the bars accompanying the map that those of French origin actually outnumber those of English over the country as a whole, due to the very high concentration of the French in Quebec province. At the same time, people of British origin (English, Scottish and Irish taken together) are 82 p.c. more than those of French origin.

The main map does not, of course, indicate absolute concentration of the designated racial origins over Canada, but, as stated, percentage concentrations to the total local populations. For instance, in Waterloo County, Ontario, people of German origin number 44,587, and, since the total county population numbers 89,818, they represent 49 64 p.c. of the local population, whereas in Lunenburg County, Nova Scotia, there are only 15,942 people of German origin but these are over 50 p.c. of the total population of Lunenburg, so a heavier percentage concentration is indicated for the area. Sometimes the local percentage concentration shown is under 25 p.c. as in the entire section of western Ontario, but in every such case no other racial origin has a heavier concentration and the one indicated is therefore the leading origin in that county or census division.

To convey a complete idea of both local percentage concentration and absolute concentration, a map of the actual distribution of population must be studied in conjunction with the main map. For this reason dot maps showing the actual distribution in Eastern and Western Canada accompany the layer map and these, in addition to the bars of relative importance of the leading racial origins, round out the information given to some extent. Although the Indians in the north, for instance, appear in very high local concentrations, we know, if only from the dot maps, that there is a very sparse and scattered population in northern Canada and therefore such concentrations mean little in the country as a whole though they are very important locally.

origin by 172,725 compared with 175,745; and that of Irish origin by 123,005 compared with 57,419. The population of British origin, taken together, increased from 4,868,738 to 5,381,071, or 512,333, between 1921 and 1931. This represented 32 p.c. of the total increase as compared with 61 p.c. of the total increase for the previous decade. On the other hand the population of French origin increased from 2,452,743 in 1921 to 2,927,990 in 1931, or by 475,247 (slightly under 30 p.c. of the total increase for the decade) and showed the greatest absolute increase for any decade since 1871. In regard to the minor racial groups which make up the population, comparison of the post-war numerical strength of certain ethnic stocks in Canada with pre-war returns cannot be made with any certainty owing to the new national and racial alignments in Central and South-Eastern Europe following the Great War.

The racial origins of the population of Canada, by provinces and territories are given below for the census years 1901 to 1931.

Origins of the People, Census Years 1901-31

Origin	1901	1911	1921	1931
British— English. Irish Scottish Other.	No. 1,260,899 988,721 800,154 13,421	No. 1,823,150 1,050,384 997,880 25,571	No. 2,545,358 1,107,803 1,173,625 41,952	No. 2,741,419 1,230,808 1,346,350 62,494
Totals, British	3,063,195	3,896,985	4,868,738	5,381,071
French Austrian Belgian Bulgarian and Roumanian Chinese. Czech (Bohemian and Moravian). Dutch Finnish. German Greek Hebrew Hungarian Indian and Eskimot Italian Japanese Negro Polish Russian Scandinavian² Ukrainian Yugoslavic Various Unspecified.	1,649,371 10,947 2,994 17,312 33,845 2,502 310,501 16,131 1,549 127,941 10,834 4,738 4,738 17,437 6,285 19,825 31,042 5,682 7,000 31,539	2,054,890 42,535 9,593 5,875 27,774 54,986 15,497 393,320 475,681 11,605 105,492 45,411 19,021 16,877 33,365 43,142 107,535 74,963 74,963 31,157 147,345	2,452,743 107,671 20,234 15,235 39,587 8,840 117,505 21,494 294,635 7,740 126,196 13,181 113,724 66,769 15,868 18,291 153,403 100,064 167,359 106,721 3,906 28,796 21,249	2,927,990 48,639 27,585 32,216 46,519 30,401 148,962 43,885 473,544 9,444 156,726 40,582 128,890 98,173 23,342 19,456 145,503 88,148 228,049 225,113 16,174 27,476 8,898
Grand Totals	5,371,315	7,206,643	8,787,949	10,376,786
		1		

¹ Includes "half-breeds" in 1901. ² Includes Danish, Icelandic, Norwegian and Swedish; in 1921 they numbered respectively, 21,124, 15,876, 68,856, and 61,503; in 1931, 34,118, 19,382, 93,243 and 81,306.

Birthplaces.—In addition to, or as supplementary to, the question of racial origin, it is important to know the birthplaces of the population—how many of the population are born, for instance, in Canada. These may be of any racial origin, e.g., French, English, German, etc. The following table gives the birthplaces of the population as shown in the past four decennial censuses:—

Birthplaces of the Population of Canada, 1901, 1911, 1921 and 1931

	Foreign Born Percentages of							Total Population		
			D	D	/D-4-1			Foreign Born		
Year	Canadian Born	British Born. ¹	Born in United States	Born in other Foreign Countries	Total Popula- tion	Canadian Born	British Born	United States Born	Other Foreign Born	
	No.	No.	No.	No.	No.	p.c.	p.c.	p.c.	p.c.	
1901 1911 1921 1931			127,899 303,680 374,022 344,574	449,052 516,255	5,371,315 7,206,643 8,787,949 10,376,786	77·98 77·75	7·84 11·58 12·12 11·42	4.26	6·23 5·87	

¹Includes some hundreds of persons born at sea.

Religions.—Of the total population in 1931 (10,376,786), 4,285,388 or 41.30 p.c. were members of the Roman Catholic faith (including 186,654 Greek Catholics).* The United Church of Canada, with 2,017,375 members, or 19.44 p.c. of the population, was second and the Anglicans, with 1,635,615 or 15.76 p.c., third. The Presbyterian was the next largest group with 870,728 members or 8.39 p.c. in 1931. According to the census returns, 0.15 p.c. did not state their religion and 0.20 p.c. gave "no religion". Statistics of religions for the past four census years follow:--

Membership of the Eight Leading Religious Denominations in Canada, 1901, 1911, 1921 and 1931

Religious Denominations	1901	1911	19214	1931
Roman Catholic United Church Anglican Presbyterian Baptist ³ Lutheran Jewish Greek Orthodox	681,494 842,531 318,005 92,524 16,401	2,833,041 1,043,017 1,116,071 382,720 229,864 74,564	3,389,626 1,407,780 1,409,406 421,730 286,458 125,197	4,285,388 2,017,375 1,635,615 870,728 443,341 394,194 155,614 102,389

Including 186,654 Greek Catholics. In earlier censuses only small numbers were involved ¹ Including 186,654 Greek Catholos. In earlier censuses only small numbers were involved and Greek Catholics and Greek Orthodox were included under the general term "Greek Church". A rapid increase in membership of both Greek Catholics and Greek Orthodox has been shown for recent censuses and, since the former owe obedience to the Pope in matters of faith, they have been included with the Roman Catholics for 1931.

² Practically all Methodists and Congregationalists, and a large number of Presbyterians united to form the United Church in Canada in 1925.

³ Including Tunkers.

⁴ Figures adjusted according to the Labrador award of the Privy Council, Mar. 1, 1927.

Membership of the Eight Leading Denominations, by Provinces and Territories, 1931

Province	Roman Catholic	United Church	Anglican	Presby- terian	Baptist	Lutheran	Jewish	Greek Orthodox
P.E.I. N.S. N.B. Que. Ont. Man Sask Alta B.C. Yukon.	39, 105 162, 754 188, 098 2, 463, 160 744, 740 189, 693 233, 979 168, 408 90, 852 667	21,979 110,548 61,176 88,253 973,768 176,240 243,399 176,816 164,750 352	5,074 88,738 48,931 149,843 764,130 128,385 126,837 112,979 205,047 2,299	14,813 48,960 16,260 59,532 450,664 55,720 67,954 72,069 84,183 432	5,066 82,098 83,853 10,970 171,305 13,483 22,613 30,496 23,395 44	7,949 969 8,261 97,022 46,892 113,676 82,411 36,635	19 1,935 1,257 59,736 62,094 19,193 5,047 3,663 2,666	6 315 75 8,992 16,387 15,774 31,126 26,427 3,274
N.W.T	3,932	2,017,375	3,352	870,728	443,341	394,194	155,614	102,389

^{*} See footnote 1 to the table in the centre of this page.

Sex and Age Distribution.—The population of Canada in 1931 was made up of 5,374,541 males and 5,002,245 females. Thus there were 518 males and 482 females per thousand. The masculinity of the population has increased in the eastern provinces and decreased in the western ones, where it was formerly greatest. A preponderance of males is common in all new countries where immigration has played an important part in building up the population. A table giving the sex distribution and the masculinity by provinces for the census years 1901, 1911, 1921 and 1931 follows:—

Sex Distribution, by Provinces, Census Years 1901-31

D	19	1901		11	19	21	1931		
Province	Males	Females	Males	Females	Males	Females	Males	Females	
P.E.I N.S. N.B. Que Ont. Man Sask Alta	51,959 233,642 168,639 824,454 1,096,640 138,504 49,431 41,019	51,300 225,932 162,481 824,444 1,086,307 116,707 41,848 32,003	251,019 179,867 1,012,815 1,301,272 252,954 291,730 223,792	172,022 992,961 1,226,020 208,440 200,702 150,503	266, 472 197, 351 1,179, 726 1,481,890 320,567 413,700 324,208	257,365 190,525 1,180,939 1,451,772 289,551 343,810 264,246	263, 104 208, 620 1, 447, 124 1, 748, 844 368, 065 499, 935 400, 199	249,742 199,599 1,427,131 1,682,839 332,074 421,850 331,406	
B.C Yukon N.W.T	114, 160 23, 084 10, 176	64,497 4,135 9,953	6,508	2,004	2,819		2,825	1,405	
Canada	2,751,708	2,619,607	3,821,995	3,384,648	4,529,6431	4,258,306	5,374,541	5,002,245	

¹ Includes 485, Royal Canadian Navy. The 1921 totals are revised in accordance with the Labrador award of March 1, 1927.

Vital Statistics

Canada has a national system of vital statistics, under the Bureau of Statistics and the Registrars-General of the several provinces, dating from 1920. The figures of births, deaths and marriages for 1932 and 1933 are compared, by provinces, with those of 1926 in the accompanying table.

Births, Deaths and Marriages in Canada, 1926, 1932 and 1933

Province	Births			Deaths			Marriages		
	1926	1932	1933	1926	1932	1933	1926	1932	1933
	No.	No.	No.	No.	No.	No.	No.	No.	No.
P.E. Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta Br. Columbia Canada ¹	1,752 10,980 10,340 82,165 67,617 14,661 20,716 14,456 10,063 232,750	2,027 11,629 10,810 82,216 66,842 14,124 20,814 16,990 10,214 235,666	1,946 11,164 10,037 76,920 63,646 13,304 20,145 16,123 9,583 222,868	6,060 5,159	1,051 6,159 4,554 33,088 36,469 5,341 6,044 5,521 6,150 104,377	1,032 6,045 4,908 31,636 35,301 5,455 6,024 5,346 6,221 101,968	2,938 17,827 23,632 4,537 5,483 4,503 4,418	456 3,197 2,380 15,115 22,224 4,729 5,772 5,054 3,604 62,531	481 3,316 2,517 15,337 22,587 4,819 5,371 5,389 4,048 63,865

¹ Exclusive of Yukon and the Northwest Territories.

Birth, Death and	Marriage Rates Per Thousand Population in Can-	ada,
	1926, 1932 and 1933.	

Province		Births			Deaths		Marriages		
Trovince	1926	1932	1933	1926	1932	1933	1926	1932	1933
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Canada ¹ . P. E. Island. Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan. Alberta. Br. Columbia.	$\begin{array}{c} 24 \cdot 7 \\ 20 \cdot 1 \\ 21 \cdot 3 \\ 26 \cdot 1 \\ 31 \cdot 6 \\ 21 \cdot 4 \\ 22 \cdot 9 \\ 25 \cdot 2 \\ 23 \cdot 8 \\ 16 \cdot 6 \end{array}$	22·5 22·8 22·4 26·2 28·3 19·2 19·9 22·3 23·0 14·5	20·9 21·9 21·4 23·9 25·9 18·1 18·4 21·2 21·3 13·5	11·4 10·3 12·4 12·6 14·3 11·3 8·3 7·4 8·5 9·0	9·9 11·8 11·9 11·0 11·4 10·5 7·5 6·5 7·5 8·7	9·6 11·6 11·6 11·7 10·7 10·0 7·6 6·3 7·1 8·7	7·1 5·3 5·6 7·4 6·8 7·5 7·1 6·7 7·4	6·0 5·1 6·2 5·8 5·2 6·4 6·7 6·2 6·8 5·1	6·0 5·4 6·4 6·0 5·2 6·4 6·7 5·6 7·1

¹ Exclusive of Yukon and the Northwest Territories

Births.—Vital statistics for the whole of Canada on a uniform basis have been made available only since 1926 when Quebec came into the registration area and from 1926 to 1930 births showed an increase each consecutive year, rising from 232,750 in 1926 to 243,495 in 1930. Since 1930, however, the number has declined to 222,604 in 1933 and because of the growing population the rates show still more decided reductions in the last few years, having fallen from 23·9 per thousand population in 1930 to 20·9 per thousand in 1933.

Multiple Births in Canada.—During the seven year period 1926-32 out of a total of 1,690,032 recorded confinements 20,701 or 1 in 81·6 were multiple confinements. Of these 20,497 were twin and 203 were triplet confinements. There was one quadruplet confinement which took place in British Columbia in 1931, although all the children so born died within a few hours of birth in contrast to a quadruplet confinement in New Brunswick in 1923, from which all four children are still living, and the more recent world famous Dionne quintuplets of 1934 which, so far, have also all survived.

Main Causes of Death in Canada.—The death rate has been declining along with the birth rate, but the resulting rate of natural increase has been slightly downward since 1930. Deaths in 1933 were the lowest they have been since uniform statistics for the whole of Canada were made possible in 1926, following the entry of Quebec into the registration area. Diseases of the heart and cancer are increasingly important causes of death in spite of all efforts to control these diseases and ranked first and second respectively in 1933. Next in importance, in 1933, was "diseases of early infancy", although the death rate from this cause shows a very great improvement since 1926. Tuberculosis (both of the respiratory system and other organs) also shows much improvement in recent years and ranked with diseases of the arteries in fourth place. Pneumonia was in next (sixth) place, although in previous years this cause ranked before diseases of the arteries. These six causes of death accounted for well over half of the total deaths in Canada in 1933.

Marriages.—As in the neighbouring country (the U.S.A.), the recent economic depression exercised a marked influence on the number of marriages and the marriage rate in Canada. In 1929 marriages in Canada numbered 77,288. They declined to 71,657 in 1930, 66,591 in 1931 and 62,531 in 1932. The corresponding rates were 7.7 per thousand in 1929, 7.0 in 1930, 6.4 in 1931 and 6.0 in 1932. The year 1933 showed an upturn

in the number of marriages with 63,839 as against 62,531 in the preceding year, though the rate remained unchanged at 6.0 per thousand. The continuation of this upward trend is indicated by the preliminary figures for the first quarter of 1934, 11,091 marriages as compared with 10,731 in the first quarter of 1933.

Divorces.—Divorces granted in Canada have increased from 19 in 1901 to 51 in 1910, to 429 in 1920, to 785 in 1928, to 816 in 1929, to 875 in 1930, but decreased to 692 in 1931, owing to fewer divorces granted in Ontario as a result of the change in system and delay in dealing with applications during the transfer from Dominion to provincial jurisdiction. For the calendar year 1932 a new high total of 995 was recorded and for 1933 the number was 923.

Immigration and Colonization

Immigration.—Total immigrants into Canada during the fiscal year 1934 numbered 13,903 as compared with 19,782 in the fiscal year 1933 and 25,752 in 1932.

The number arriving from the United Kingdom was 2,260, as compared with 3,097 and 7,088 in 1933 and 1932 respectively; immigrants from the United States totalled 7,740 in 1934 as compared with 13,196 and 14,297 respectively for the two previous years; from other countries the number was 3,903 as compared with 3,489 and 4,367 respectively.

Land Settlement.—Settlement on the land of families with agricultural background from the cities, and the placement in farm employment of single men otherwise unemployed, have been important activities of the Department of Immigration and Colonization since the encouragement of immigration was discontinued in 1930. In the period from Oct. 1, 1930, to June 30, 1934, the Department, with the active co-operation of the Canadian Pacific and Canadian National Railways, placed 14,029 families on farms and 31,199 single men in farm employment. On the basis of five persons to the family this represents a landward movement of 101,344 individuals. This settlement was effected without financial assistance from public sources. In addition, from June 1, 1932, to June 30, 1934, a total of 3,107 families consisting of 16,526 persons were established on farms under the Relief Land Settlement Plan which provides for co-operation between the Dominion Government and the Provincial Government and municipality concerned in assisting to the extent of \$600 per family in the establishment on the land of suitable families who would otherwise be on relief in the cities.

The Aboriginal Races

Indians.—The Indians of Canada are wards of the Department of Indian Affairs and number, according to the 1931 census, 122,911 (62,943 males and 59,968 females) made up by provinces as follows: P.E.I., 233; N.S., 2,191; N.B., 1,685; Que., 12,312; Ont., 30,368; Man., 15,417; Sask., 15,268; Alta., 15,249; B.C., 24,599; Yukon, 1,543; N.W.T., 4,046.

Indians are minors under the law and their affairs are administered by the Department under the authority of the Indian Act. The system of reserves, whereby particular areas of land have been set apart solely for the use of Indians, has been established in Canada from the earliest times. It was designed to protect the Indians from encroachment, and to provide a sort of sanctuary where they could develop unmolested until advancing civilization had made possible their absorption into the general body of the citizens. Reserves have been set aside for the various bands of Indians throughout the Dominion, and the Indians located thereon are

under the supervision of the local agents of the Department. The activities of the Department, as guardian of the Indians, include the control of Indian education (see p. 171), health, etc., the development of agriculture and other pursuits among them, the administration of their funds and legal transactions and the general supervision of their welfare. The local administration of the Indian bands on the reserves is conducted through the Department's agencies, of which there are well over 100.



A Street in an Indian Village, Alert Bay, B.C.

Courtesy, Canadian Government Motion Picture Bureau.

The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised he ceases to be an Indian under the law, and acquires the full status of citizenship. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem. Indians who become enfranchised lose the special protection attached to their wardship, so that it is necessary to guard against premature enfranchisement.

Eskimos.—Unlike the Indians who are scattered throughout Canada, the Eskimos are mostly limited to the Northwest Territories, chiefly the northern fringe of the mainland and the Arctic Archipelago. The Eskimo is a nomad but lives for the most part along the Arctic littoral. Since 1927 the administration of the Eskimos has been carried on by the Department of the Interior. According to the 1931 census the Eskimos in Canada number 5,979 made up by provinces as follows: Que., 1,159; Man., 62; Alta., 3; Yukon, 85; N.W.T., 4,670. There are 3,116 males and 2,863 females. Each year the Government sends an expedition to the archipelago for the inspection of the various posts, the relief of personnel, and to promote the general welfare of the natives.

CHAPTER III

WEALTH, PRODUCTION AND INCOME —CAPITAL INVESTMENTS

National Wealth

"National Wealth" in this analysis is a concrete concept and includes all our farms, factories, equipment, merchandise in stock, real estate, roads, highways, developed resources and the thousand and one material things which we as a nation possess.



Elevators and Flour Mills at Fort William, Ontario.

Courtesy, Topographical Survey, Department of the
Interior and Royal Canadian Air Force.

Great difficulty arises when we try to reduce all the things which go to make up this wealth (things which once created are not themselves subject to violent change) to a common denominator for statistical purposes. Estimates of national wealth must always be expressed in terms of the national currency and thus, normally, in terms of gold dollars. Yet the purchasing power of the currency unit is always fluctuating and since 1929 had at one point increased by more than 50 p.c. (Feb., 1933) in terms of wholesale prices. Even in 1930, the average index of wholesale prices was down by nearly 10 p.c. from 1929, while in December of that year the index was 19 p.c. lower than in December, 1929. The index continued to

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decline until February, 1933, and even though there has been some improvement since then, in September, 1934, it was still more than 26 p.c. below the same month in 1929.

The effect of such drastic reductions in prices is first felt by the commodities which are being currently produced and, through these commodities, diminishes the dollar value of production and consequently the national income of a country where most people are producers. Ultimately a persistent decline of this character affects the capital values of real estate, buildings, machinery, etc., and its influence is then felt in a reduction in the national wealth as stated in dollars. The capital value of our national wealth has not yet been finally readjusted for the fluctuations in prices which have marked the past five or six years, and any attempt to estimate the wealth of Canada must be open to serious error until a fairly stable level of prices has been reached. The 1929 estimate, which is considered to represent fairly well values in that year is, therefore, the latest which has been compiled by the Bureau of Statistics and the table below shows the national wealth on that basis.

Estimate of the National Wealth of Canada, as in 1929

Classification of Wealth	Aggregate Amount	Percentage of Total	Average Amount per head of Population
Daniel Walter Control of the Control	\$	p.c.	\$
Farm Values (land, buildings, implements, machinery and livestock)	6,308,353,000	20.45	629.01
Agricultural Products in the possession of farmers and traders	1,631,124,000	5.29	162.64
Totals, Agricultural Wealth	7,939,477,000	25.74	791.65
Mines (capital employed)	867,021,000	2.81	86.45
Forests (estimated value of accessible raw materials, pulpwood and capital invested in woods operations)	1,877,000,000	6.09	187.16
Fisheries (capital invested in boats, gear, etc., in primary operations).	33,935,000	0.11	3.38
Central Electric Stations (capital invested in equipment, materials, etc.)	554,327,000	1.80	55.27
Manufactures (machinery and tools, and estimate for capital in rural lands and buildings)1	1,418,040,000	4.60	141.39
Manufactures (materials on hand and stocks in process) Construction, Custom and Repair (estimated invest-	837,805,000	2.72	83.54
ment in machinery and tools and materials on hand)	137,685,000	0.45	13.73
iture, fixtures, delivery equipment and materials on hand)	1,136,291,000 3,153,351,000	3·68 10·22	113.31 314.42
Electric Railways (investment in road and equipment).	240,111,000	0.78	23.94
relephones (cost of property and equipment) Urban Real Property (assessed valuations and ex-		0.95	29.07
empted property and estimate for under valuation by assessors and for roads, sewers, etc.)	8,251,011,000	26.75	822.73
Canals (amount expended on construction to March 31, 1930)	241,946,000	0.79	24.12
Harbours (approximate amount expended to March 31, 1930)	367,488,000	1.19	36.64
Shipping (including aircraft)	149,306,000	0.48	14.89
imported during 1929). Automobiles (estimate of the value of automobiles	649,477,000	2.11	64.76
registered)	758, 424, 000	2.46	75.62
Highways, etc	364,896,000	1.18	36.38
from production and trade statistics)	1,370,000,000	4.44	136.61
ment, chartered banks and the general public	201,030,000	0.65	20.04
Totals	30,840,210,000	100.00	3,075.10

¹Duplication excluded.

The tangible wealth of Canada, apart from undeveloped natural resources, was estimated at about \$30,840 million in 1929. This represented an increase of \$8,640 million since 1921. There is no earlier figure that is strictly comparable, but it is fairly certain that there was a growth of over four times between 1900 and 1929. Agricultural values made up \$7,939 million of the 1929 total, urban real estate \$8,251 million, and steam railways \$3,153 million. Ontario owns about one-third, Quebec over one-quarter, and Saskatchewan just under one-tenth; British Columbia, Alberta and Manitoba follow closely in the order named. The following table gives the provincial distribution.

Provincial Distribution of the National Wealth of Canada, 1929

Province	Estimated Wealth	Percentage Distribution of Wealth	Estimated Population June 1, 1929	Percentage Distribution of Population	Wealth per capita
P.E.I. Nova Scotia. New Brunswick. Quebec.	\$ 164,000,000 911,000,000 788,000,000 8,265,000,000	p.e. 0·53 2·95 2·56 26·80	No. 88,000 515,000 404,000 2,772,000	0.88 5.14 4.03 27.64	\$ 1,864 1,769 1,950
Öntario Manitoba. Saskatchewan. Alberta. British Columbia.	10,628,000,000 1,970,000 000 3,047,000,000 2,406,000,000 2,644,000,000	34·46 6·39 9·88 7·80 8·57	3,334,000 677,000 883,000 684,000 659,000	33·24 6·75 8·80 6·82 6·57	2,982 3,188 2,910 3,451 3,518 4,012
Canada ¹	30,840,000,000	100.00	10,029,000	100.00	3,075

¹Including Northwest Territories and Yukon.

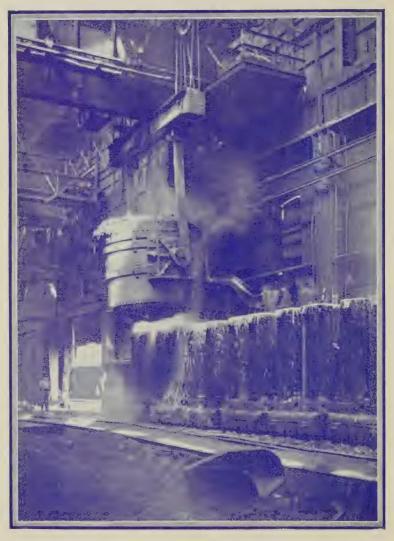
Production

Under the term "production" are usually included the activities of agriculture, fishing, mining, forestry, power development, manufactures and construction. This does not imply that many other activities, such as transportation, merchandising, professional services, etc., are not also "productive" in a broad economic sense. It is usual, however, to regard the processes involved in the creation of materials or their making over into new forms as constituting "production" in a special sense. Of this a bird's-eye view is given in the table on p. 37, which shows the gross and net value of production in each of the divisions of industry above mentioned. In a second table a summary of the value of total production in Canada is given by provinces.

A distinction is made between gross and net production. By net production is meant the value left in the producer's hands after the elimination of the value of the materials consumed in the process of production. This net figure is a much better criterion for measuring the value of an industry than the gross.

For 1932, as was to be expected, production, both gross and net, showed a further falling off from the low level of 1931. As regards gross value, all groups of primary production, with the single exception of electric power, show decreases but increases are recorded for agriculture and electric power in net value compared with 1931. The three branches of secondary production show heavy declines in both gross and net valuations. The total

net value of production is, in fact, lower for 1932 than for any year since 1921 when the record was commenced, but this does not mean that the *physical volume* of production was at its lowest point in any of these years.



Production.—Pouring molten steel into ingot moulds in a large Canadian iron and steel plant.

Courtesy, Canadian Government Motion Picture Bureau.

Summary by Industries of the Value of Production in Canada, 1931 and 1932

Industry	1931		1932		
	Gross	Net1	Gross	Net1	
Agriculture. Forestry. Fisheries. Trapping. Mining. Electric Power.	\$ 880,053,8844 288,674,002 39,654,811 8,744,962 276,365,319 163,321,565	\$ 538, 192, 000 200, 650, 269 30, 517, 306 8, 744, 962 228, 029, 018 122, 310, 730	\$ 818,549,921 4 195,025,352 33,665,822 7,118,021 228,948,172 171,630,682	\$ 565,417,704 133,401,946 25,957,109 7,118,021 191,228,225 128,420,233	
Totals, Primary Production	1,656,814,543	1,128,444,285	1,454,937,970	1,051,543,238	
Construction	315,482,000 97,000,000 2,698,461,862	205,063,300 71,000,000 1,474,581,851	132,872,400 78,000,000 2,126,194,555	86,367,060 57,000,000 1,170,225,872	
Totals, Secondary Production3	3,110,943,862	1,750,645,151	2,337,066,955	1,313,592,932	
Grand Totals3	4,157,733,325	2,500,203,902	3,366,510,562	2,104,908,301	

1 Gross value minus value of materials consumed in the production process.

2 Statistics of Custom and Repair have not been collected since 1921 and the totals for 1931 and

1932 were estimated according to the percentage change in the data for manufacturing.

3 The item "Manufactures" includes dairy factories, sawmills, pulpmills, fish canning and curing, electric power production, shipbuilding and certain mineral industries, which are also included in other headings above. This duplication, amounting in 1931 to a gross of \$610,025,080 ated from the grand totals.

4 This figure includes the amount paid to patrons of dairy factories for milk and cream, and to that extent does not agree with the total gross agricultural production for this year shown on p. 48.

Summary, by Provinces, of the Value of Production in Canada, 1931 and 1932

Province	1931		1932		
	Gross	.Net¹	Gross	Net ¹	
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia Yukon	\$ 17, 278, 144 136, 853, 405 100, 055, 694 1,142, 897, 391 1, 832, 254, 080 199, 685, 515 173, 336, 852 255, 519, 947 295, 592, 071 4, 260, 226	\$ 11,924,262 94,507,795 64,307,571 686,817,209 1,083,600,274 113,396,393 82,691,410 164,947,717 193,751,045 4,260,226	\$ 15,943,467 102,795,156 84,667,778 919,858,072 1,459,572,816 164,911,278 172,862,819 214,177,072 228,538,264 3,183,840	\$ 10,264,666 70,917,559 54,063,723 557,659,317 884,801,710 100,453,108 117,858,748 157,015,824 148,689,806 3,183,840	
Canada	4,157,733,325	2,500,203,902	3,366,510,562	2,104,908,301	

¹ Gross value minus value of materials consumed in the production process.

It will be seen that manufactures now definitely takes precedence over agriculture in net value of production for the whole of Canada. This has in fact been the case since 1925, but owing to the rapid decline in agricultural prices in recent years the lead of manufactures over agriculture has been increased substantially. Agricultural production in 1932 represented 26.9 p.c. of the net output of all branches while the corresponding figure for manufactures was 55.6 p.c. These figures correspond with 21.5

p.c. and 59·0 p.c., respectively, for 1931, so that, while the lead of manufactures is still very great, the position of agriculture has been relatively improved. Mining was in second place among the primary industries in 1932 and forestry in third; the secondary industries hold the same relative positions as in 1931, but in all cases the declines have been very marked.

National Income

The exact measurement of the national income is, of course, an impossibility. There must always be a margin of error in estimates of this kind apart from the fact that, as in the case of national wealth, (see p. 33) values have to be measured in dollars, whereas the fluctuations in the price level change the purchasing power of those same dollars from year to year. Moreover non-money incomes are more common in Canada than in some older countries of the white man's world and in rural areas constitute a very important part of the total income of most families.

Despite all these difficulties, the estimate of national income is one of the most important and the most comprehensive of all national statistics, and the accuracy with which it is approximated is, generally, a measure of the value of the national statistical system.

The national income of Canada is necessarily less than the national net production, a partial total for which is given in the general survey of production immediately preceding this Section. The industries there dealt with, as was pointed out, are not inclusive of such activities as transportation, merchandising or personal or professional services, which do not produce commodities as such, but are equally productive in the broader sense of the term. According to the census of 1931, the workers engaged in the actual production of commodities were only five-eighths of the total gainfully occupied population. If we are justified in considering the other three-eighths of the workers as equally productive in the broad sense, our problem of establishing a reasonably correct figure of national income is simplified.

An estimate of the wealth produced by those workers engaged in rendering services rather than working up commodities, that is, in the creation of "place, time and possession and service utilities" rather than "form utilities", has been facilitated by the census of distribution for 1930, owing to the larger volume of statistics regarding distributive workers which is now available, and the conclusions reached* indicate that those not connected with production as defined in the Survey of Production are in fact equally productive in the broader sense.

The total recorded estimated net production of commodities for 1932, as given on page 37, is \$2,104,908,301. From this figure, however, there ought to be deducted the cost of fuel or power used in the manufacturing processes, for, so far as this fuel or power was produced in Canada, it is duplicated in primary production since it was not considered as one of the materials of industry when the net value for "manufactures" was struck. So far as it was not produced in Canada it had to be purchased with exports and should therefore be deducted in this case also. For the year 1932 such costs of fuel and power amounted to \$72,941,581, which, when deducted from \$2,104,908,301 leaves \$2,031,966,720. By taking eight-fifths

^{*} See the bulletin "The National Income of Canada," by S. A. Cudmore, M.A., F.S.S., F.R. Econ. Soc., obtainable from the Dominion Statistician.

of this (or \$3,251,147,000), therefore, we get the estimated total value of the production of all the gainfully occupied in Canada.

In order to arrive at an estimate of national income from these figures of total production, items such as depreciation of equipment engaged in production, the net balance of interest payments payable from outsiders to Canadians and from Canadians to outsiders, etc., must be considered.

As regards depreciation of capital equipment, this item is considered to be at least offset by the consumption of materials on maintenance, which go into production but do not show as products thereof, and from the fact that no allowance has been made in the figure for total production for the value of garden produce, poultry, etc., raised by householders, for casual earnings, and for other means by which national income is increased, which it is not possible to record but which must reach a substantial total in the aggregate.

The balance of interest payments due to outsiders is carefully estimated by the Bureau of Statistics each year. For 1932 the figure was \$192,000,000. Subtracting this from \$3,251,147,000 and allowing 4 p.c. of the remainder for income received in excess of wholesale prices by farmers, etc., who sell at retail, the 1932 income of the Canadian people may reasonably be placed at \$3,181,513,000.

There are ways of estimating national income on other bases than that of production which has been employed here, but there is every reason to believe that when the problem is approached from other angles, such as total earnings of the people or total purchases at retail for consumption, the estimate is not materially affected. For instance, in the bulletin already referred to (see footnote, page 38) the problem has been approached from all of these avenues for the year 1930 and it is shown that the results check very closely.

Incomes Assessed for Income War Tax in Canada.—In those countries of the world where an income tax has been established for a considerable time the figures of the assessed income have been generally accepted as furnishing a guide both to the amount and to the distribution of the total national income by classes. Estimates of the national income, based upon income tax statistics, have been published, for example, in the United Kingdom and in the United States.

In Canada the income tax is a newer thing than in either of the above-mentioned countries; also, in a newer country than either, incomes are to a greater extent received in kind. Both of these considerations render it improbable that so large a percentage of the total national income of Canada is brought under the notice of the income tax authorities as in the United Kingdom or the United States. Nevertheless, the data collected by the Income Tax Branch of the Department of National Revenue, in the course of its administration of the income war tax, are significant both with regard to the total income assessed and with regard to the distribution of that income among various classes of the population, as well as to size of income groups.

In the fiscal year ended 1933, individuals and corporations paid Dominion income tax on 1931 incomes aggregating \$944,091,564, so that for that year slightly less than one-fourth of the national income (estimated as \$3,700,000,000 in 1931) would appear to have been subject to income tax by Dominion authorities.

 $[\]dagger$ Such produce to the value of nearly \$19,000,000 was raised elsewhere than on farms in 1930 according to the census of 1931.

As regards the amount of income tax paid by various income groups, it is noteworthy that, in 1933, slightly over 35 p.c. of the total gross amount (\$25,780,222) collected from individuals was from those with incomes of \$50,000 and over (such individuals might be considered as in the millionaire class and numbered only 390 out of a total of 166,972 individual taxpayers); on the other hand only 18.4 p.c. of the total was contributed by individuals with incomes under \$10,000 (individuals of this broad class, paying tax, numbered 158,268 or nearly 95 p.c. of individual tax-payers). In the case of corporations, those with incomes of over \$50,000 also contributed the major part (over 85 p.c.) of the total gross receipts (\$36,560,007) from all corporations, but the number of such companies was a very much higher proportion of the total than in the case of individuals.

Outside Capital Invested in Canada

A young nation like Canada is usually dependent to a considerable degree on outside capital for the development of its resources. In the opening decades of the century the marked expansion in Canada was largely based on capital imported from the United Kingdom (see table), at least \$1,500 millions being imported during 1900-12. During the War the latent capital resources of Canada itself were for the first time exploited on a large scale, nearly \$2,000,000,000 being raised by the Dominion Government. Since the War the outstanding feature in the situation has been the considerable importation of capital from the United States, as in 1914 U.S. capital investments were about \$904,000,000, while in 1931 they exceeded \$4,000,000,000. British investments in Canada have in the meantime declined by nearly 19 p.c. (see accompanying table).

In spite of the large importation of capital from abroad, Canadian capital probably controls at least 60 p.c. of the securities of all enterprises located on Canadian soil. Outside capital investments in 1929 were less than 20 p.c. of the estimated national wealth in the same year (p. 34).

Capital Investments by Other Countries in Canada, 1914, 1919, 1929 and 1931

Country	19141	19192	19292	19312
United States	\$ 904,455,000 2,711,841,000 177,729,000	\$ 1,800,435,000 2,606,848,000 173,493,000	\$ 3,608,521,000 2,128,489,000 155,409,000	\$ 4,107,803,000 2,204,858,000 165,217,000
Totals	3,794.025,000	4,580,776,000	5,892,419,000	6,477,878,000

¹Estimated by various authorities. ²Estimated by Dominion Bureau of Statistics.

It must also be borne in mind that Canadians have invested large amounts of capital abroad. The Bureau estimates that Canadian investments in other countries amounted to \$1,831,310,000 at the beginning of 1931, or 28 p.c. of the amount of outside investments in Canada. Of this \$1,047,285,000 was placed in the United States, \$84,826,000 in the United Kingdom and \$699,198,000 in other countries.

CHAPTER IV

AGRICULTURE

The climate, soil and acquired capital facilities of Canada are such as to produce a wide variety of farm and forest products common to the temperate zone. This outstanding feature will be evident from a brief consideration of the prevailing regional types of farming in the Dominion.

The Maritime Provinces show a considerable regional difference in crop production, although fruit and potatoes are the most important cash crops, with especially favoured conditions for their production. Hay and clover command the largest proportion of the field-crop area, while oats has the largest acreage among the grain crops, followed by mixed grains and buckwheat, with small areas sown to wheat.



Riviere des Prairies, Quebec.—A splendid view from the air of the excellent farming country along the north shore of Montreal Island and the mainland opposite.

Courtesy, Topographical Survey, Department of the Interior and Royal Canadian Air Force.

The province of Quebec is adapted essentially for mixed farming, with large regions specializing in dairying. The forage and coarse grains crops comprise over 90 p.c. of the total field-crop area, potatoes and buckwheat having the largest acreages among the strictly cash crops. The farming population lives 'off the farm' to the greatest possible extent, and revenues from such items as maple sugar, cordwood, and domestic work are very important. The boundaries of the farming area are gradually being pushed further north and west.

The province of Ontario shows probably the greatest regional variation in types of farming, ranging from the highly specialized fruit farms of the Niagara peninsula to the pioneer farms on the wooded lands of northern Ontario. As in Quebec, the agriculture of the whole province shows a marked predominance of forage crops and coarse grains, but the acreages of cereals are much higher than in Quebec. In some counties, such as Kent, Simcoe, Essex and Middlesex, the wheat crop is relied upon to return a fair share of the cash income. Sugar beets cover considerable acreages in Kent, Essex and Lambton, while tobacco is important in Essex, Elgin and Norfolk. Dairy farming prevails in scattered districts over the province, providing large proportions of the incomes on farms along the Ottawa and St. Lawrence valleys and in the vicinity of Toronto.

Over two-thirds of the field-crop acreage of Canada is concentrated in the three prairie provinces, and most of this area is seeded to the grain crops, with wheat predominant. Roughly speaking, the specialized wheat areas cover the southern short-grass plains from the Red River valley of Manitoba to the foothills of Alberta and attain their greatest width in central Saskatchewan. In the park belt, lying mostly north of this region, mixed farming is practised, with large acreages of coarse grains and

natural hay utilized for live-stock feeding.

British Columbian agriculture is relatively intensive, dependent mainly on tree and bush fruits, berries and vegetables. Poultry and dairy farms are numerous along the southwestern coast, while ranching is confined to

the interior valleys.

Canada has about 350 million acres of land suitable for farming purposes and, of this total, $163\frac{1}{2}$ million acres are in occupied farms, of which nearly 86 million acres are improved land. Even at the very low valuations existing in 1933, farm land was valued at \$2,032,769,000. Buildings on farms represent a further investment of \$1,342,924,000 according to the Census of 1931.

Although Canada has a relatively small non-agricultural population for the absorption of surplus production, approximately 85 p.c. of our total agricultural production is consumed in Canada, with the remaining 15 p.c. of finding markets abroad. Agriculture, however, provides roughly 40 p.c. of our total national export trade, the most important items being grain and grain products, cheese, live stock and live-stock products (principally

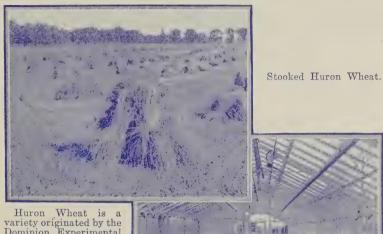
meats and hides), potatoes and apples.

Again, our agriculture is so diversified that imports of agricultural products form a small proportion of our total imports. Imported agricultural commodities consist chiefly of tropical fruits and spices and processed products from other countries, particularly the United Kingdom, with temperate climates. Over one-half of our agricultural imports are practically incapable of production in Canada, consisting of such items as tropical fruits, rubber, tea, vegetable oils, coffee, chicory and nuts. Among the processed products of agricultural origin, cotton and silk manufactures form the largest proportion.

Government Assistance to Agriculture

Agricultural progress in Canada is typified and measured not only by the expansion of crop acreages and production and by the increase in live stock, but by the improvement in methods of production, by the production of higher quality commodities, and by the careful supervision of grading to meet the standards and requirements of both domestic and export markets. In these important fields the Canadian farmer reaps many advantages from governmental and institutional assistance.

Outstanding among these activities is the work of the Dominion Experimental Farms and Stations, begun in 1896 with 5 farms of 3,472 acres and at the present time including 29 experimental farms and stations with a total area of 16,257 acres.



Huron Wheat is a variety originated by the Dominion Experimental Farms. It is a high-yielding, strong strawed variety which is recommended for use in Eastern Canada. By using greenhouses similar to the one shown, a plant breeder can accomplish in three years what would otherwise require six years. This means

that valuable results of plant-breeding work are given to the farmer in half the time required if all the work were done out of doors.

Courtesy, Dominion Experimental Farm, Ottawa, and Canadian Government Motion Picture Bureau.

The experimental farms and stations work in unity through central direction from Ottawa, but are engaged in experimental and practical work designed to improve agricultural methods in their respective districts. Their success in this main endeavour becomes more evident annually and their officers are widely recognized as authorities on agricultural matters. In addition, a chain of Dominion Illustration Stations has been organized throughout Canada for the general purpose of demonstrating precisely and practically the effective and economical methods of husbandry which are suited to their districts. Railway and land companies have also been prominent in disseminating agricultural advice.

The work of the Dominion Departments of Trade and Commerce, and Agriculture, in the standardization and grading of the important agricultural products, has also been a significant factor in building up export markets.

Each of the nine provinces, under Section 95 of the B.N.A. Act, has its Department of Agriculture, and everywhere the provinces endeavour to assist their farmers by educational and extension work, and in most cases by the organization of co-operative marketing. Agricultural colleges maintained by the provinces are the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the Manitoba Agricultural College at Winnipeg. Three agricultural colleges in Quebec are assisted by the Provincial Government, while faculties of agriculture are found in the provincial universities of Saskatchewan, Alberta and British Columbia.

The Canadian Grain Trade

The natural disadvantages involved in the wide separation of the prairie grain fields from the markets of Europe have been considerably lessened by continued efforts to improve the marketing and transportation facilities. The Great Lakes and St. Lawrence river have been used to good advantage since the inception of the movement of grain to the Eastern Canadian and United States' seaboard. The quantity exported through the St. Lawrence ports of Montreal, Sorel and Quebec for 1933-34 was 70,198,567 bushels, while the Canadian seaboard ports of Saint John and Halifax show exports of 8,312,555 bushels. The exports routed via United States were shown as 44,803,301 bushels. No account has been taken of re-routed grain which should be added to the Canadian port movement and deducted from exports via United States ports.



Grain-Growing on the Prairies—Stooked wheat as far as the eye can see.

Courtesy, Canadian Government Motion Picture Bureau.

The westward route through Vancouver has been established for a number of years but not until the crop years 1921-22 did the movement reach any appreciable volume, when 18,212,826 bushels were exported. During 1933-34 exports of grain from the same port amounted to 49,428,831

bushels. Other ports on the Pacific coast exporting grain include New Westminster, Victoria and Prince Rupert. The port of Churchill on Hudson bay initiated shipments in 1931 and, in 1933-34, exported 2,707,879 bushels. The movement of grain at both interior and terminal points has been regulated by adequate elevator facilities. The volume of grain shipments has expanded greatly since the turn of the century and the necessary handling facilities have kept pace. The operation of the licensed elevators of Canada is covered by the Canada Grain Act, which was extensively revised in 1930. The number of these elevators has grown from 523 with a capacity of 18,329,352 bushels at the end of the last century to 5,901 with a capacity of 419,592,660 bushels in 1934. They are divided into three principal groups, the Western Country, the Terminal and the Eastern elevators.

The Western Country elevators are those that handle grain direct from the farmer. In 1900-01 they numbered 518 with a total capacity of 12,759,352 bushels, while in 1933-34 the number had increased to 5,758 with a capacity of 192,750,000 bushels. Some of these, however, have been

closed during the recent period of light crops.

Terminal elevators (as defined by the Canada Grain Act) are located at Fort William, Port Arthur, Churchill, and Vancouver. In 1900-01 there were only five licensed elevators at the head of the lakes with a total capacity of 5,570,000 bushels; the number, by 1934, had increased to thirty-four with a total capacity of 94,482,210 bushels. Vancouver is a comparatively recent elevator centre; there were two licensed elevators there in 1906-07 (the first year reported) with a joint capacity of 200,000 bushels, four in 1915-16 with a capacity of 1,631,000 bushels and 12 in 1933-34 with a total capacity of 21,443,000 bushels.

The Eastern elevators are located along the Lower Lakes, the river St. Lawrence and the Canadian seaboard. They were eighteen in number in 1908-09 and had a total capacity of 14,826,000 bushels; in 1933-34 the number was twenty-nine with a total capacity of 76,339,000 bushels.

The strictest supervision of grading is maintained in order to establish the high quality of Canadian grain abroad. Cleaning and drying facilities are available at both interior and terminal elevators, and grading is superintended by the Board of Grain Commissioners, established in 1912 for the

management and control of the grain trade of Canada.

The export trade in Canadian wheat has greatly increased in the past half-century, although the actual amounts exported in recent years vary widely with growing conditions in Canada and the state of markets abroad. Record levels of wheat and wheat flour exports were reached following the bumper crop of 1928, and in the crop year 1928-29, 407,564,187 bushels of wheat and wheat flour (expressed as wheat) were exported from Canada. Although Canada stands third to the United States and Russia among the wheat-producing countries of the world, she is normally first among the wheat-exporting nations. Even with the relatively short crops of the past few years, this position has been well maintained. During the past crop year 1933-34, the exports amounted to 194,779,875 bushels, while the production of wheat was 269,729,000 bushels.

Agricultural Co-operation in Canada*

Co-operative organization forms an integral part of the economic fabric of Canadian agriculture. The activities of the larger organizations such as the wheat pools, live-stock and fruit co-operatives have reached a high stage of development, and have received world-wide recognition.

^{*} Statistics contained in this review are based on records received by the Economics Branch, Department of Agriculture, covering the business year of 1931.

In addition to these are hundreds of comparatively small organizations which are working quietly and effectively to serve local areas.

Available statistics show 795 farmers' co-operative associations which together with their 2,706 local branches make a total of 3,501 places of business actively engaged in marketing of farm products and the purchase of supplies for farmers. The shareholders and members financially interested number 379,687. Combined assets total \$70,226,288 with plant and equipment valued at \$45,607,366. The total investment of shareholders and members in paid-up capital stock, membership fees and deductions, amounts to \$38,643,598 and reserves total \$7,732,027. Sales of farm products for the year under review amounted to \$134,611,154. The sales value of supplies handled totalled \$10,665,503 and other receipts \$27,297 which combined means a total business of \$145,303,954.

Available records indicate that the most important early activity of farmers in the field of co-operation in Canada was directed toward the marketing of farm products. Such bodies to-day outnumber farmers' purchasing associations by 10 to 1. In comparing the volume of business, marketing associations transact twenty times the business handled by purchasing agencies. Membership in the co-operative marketing associations is given as 318,597 jersons compared with 30,546 members in purchasing organizations.

Within the marketing group the grain and seed co-operatives which include the wheat pools of Western Canada have the largest membership and investment and exceed all other commodity groups in volume of business which is estimated at \$91,257,433 for the year under review. A membership of 190,372 grain growers contributed to this business through 2,143 co-operative marketing agencies. Mainly through deductions from the selling price of their grain these members have invested a sum of \$29,410,190 in their business and in addition have paid up \$3,396,657 in share capital. Combined assets total \$54,746,759 and over a period of years a reserve fund of \$5,526,635 has been built up.

One hundred and thirteen dairy co-operatives in Canada reported a membership of 27,524 who own assets valued at \$3,898,060. Paid-up share capital amounts to \$1,403,299 with reserves of \$244,205. Sales of dairy

products totalled \$15,303,028 for the year under review.

The records for 338 live-stock shipping and marketing associations show a combined membership of 44,389. Financing of these associations is mainly by membership fees and commissions. Assets are comparatively low with value of plant and equipment amounting to \$315,509. This accommodated a business of \$15,900,070. The live-stock co-operatives undertake very little processing of their product. Their main activity is the assembling of live stock in cars at producing points for shipment to central markets.

A large part of the fruit and vegetable crop is marketed through 110 fruit co-operatives with a combined membership of 8,232 fruit growers. Assets for all companies total \$3,058,170 which are supported by reserves of \$514,383. Sales of fruits and vegetables during the year amounted to \$6,245,354 which, together with supplies purchased and other receipts, gave a total business of \$7,679,713.

Poultry producers have organized in each of the provinces to sell their products co-operatively. Two hundred associations reported a membership of 30,511 members. Assets amount to \$405,453 with reserves of \$72,181. Sales for the year amounted to \$4,437,379.

Practically all the wool marketed co-operatively in Canada is handled by the Canadian Co-operative Wool Growers Limited. The company operates in each province through the medium of 14 sheep breeders' and wool growers' associations. The co-operative stores, grades, and markets the wool received from its 9,000 members and patrons. In addition it carries on advertising and educational work and handles materials and supplies for its members. The quantity of wool handled by the co-operative during the year amounted to 4,736,070 pounds. In Ontario the honey producers are organized co-operatively with a membership of 1,100 members. This association markets approximately 4,000,000 pounds of honey annually.

Available statistics show 384 associations are organized for the purpose of purchasing farm supplies and merchandise on the co-operative plan. These consumer associations, of which over one-half are established in the province of Saskatchewan, have a combined membership of 30,546. The sales value of supplies purchased during the year, by associations organized exclusively for the handling of supplies, amounted to \$7,042,769. In five of the provinces co-operative wholesale buying societies purchase goods for their shareholder associations.

Agricultural Wealth and Revenue

The preliminary estimate of the gross agricultural wealth of Canada, 1933, is \$5,232,512,000 as compared with \$5,209,760,000, the revised estimate for 1932 and \$6,056,951,000, the revised estimate for 1931. The gross value of the agricultural production was \$762,302,000 in 1933, a reduction of \$4,492,000 from 1932.

The tables below give the agricultural wealth of Canada by provinces for 1933, and the agricultural revenue by items, 1928-33. Ontario had about 28 p.c. of the total wealth, Saskatchewan 22 p.c. and Quebec 17 p.c. in 1933.

Estimates of the net agricultural revenue of Canada are made by deducting from the gross field-crop revenue such items as feed for farm animals and poultry, seed and unmerchantable grain, and by deducting vegetables produced on farms for home use from the gross revenue from fruits and vegetables. A preliminary estimate of the net agricultural revenue of Canada in 1933 is given as \$464,499,000 compared with a revised estimate of \$475,511,000 for 1932.

Estimated Gross Agricultural Wealth of Canada, by Provinces, 1933, with Totals for 1931 and 1932

("'000" omitted)

Province Lan	ds Buildings	Implements and Machinery	Live Stock	Poultry	Animals on Fur Farms	Agri- cultural Pro- duction	Total
\$	\$	S					
			\$	\$	\$	\$	\$
Nova Scotia	,250	0 10,554 13,253 8 97,270 151,928 9 54,847 5 185,510 116,301 12,885 4 650,664 4 650,664	10,829 11,144 70,968 128,100 32,693 69,744 60,991 14,102	738 894 5,054 14,637 2,363 4,154 3,080 1,927 33,456	389 669 1,517 1,505 547	23, 143 21, 148 138, 221 264, 762 53, 987 106, 417 110, 705 31, 276 762, 302 766, 794	124,055 119,704 900,506 1,489,313 382,988 1,163,850 796,361

Gross Annual Agricultural Revenue of Canada, 1928-33

("000" omitted)

Item	1928	1929	1930	1931	1932	1933
	\$	\$	\$	\$	\$	\$
Field crops Farm animals Wool Dairy products Fruits and vegetables Poultry and eggs Fur farming Maple products Tobacco Flax fibre Clover and grass seed Honey	1,125,003 197,880 5,099 297,625 48,756 106,653 6,106 5,583 6,834 509 2,957 3,015	207,317 4,470 291,743 46,398	2,311	432, 199 96, 778 1, 644 191, 390 39, 692 56, 298 3, 557 3, 456 7, 178 179 1, 497 2, 246	452,527 65,185 1,093 159,074 32,157 42,078 3,284 2,706 6,088 170 962 1,470	422,148 89,063 2,000 167,488 31,700 35,880 3,535 2,059 5,201 159 1,362
Totals	1,806,020			836,114	766,794	762,302



Field of Hemp Grown for Fibre.—The man's hand, held upright about middle distance of the picture, gives an idea of the height of the crop; hemp is used for making twine and cordage. Inset: Harvesting fibre hemp with a horse-drawn hemp reaper.

Courtesy, Fibre Plants Division, Dominion Experimental Farm, Ottawa and Canadian Government Motion Picture Bureau.

At this date, it is believed that the farm revenue for 1934 may show some increase compared with that of 1933, despite the continued depression in some of the important branches of agriculture. Total grain production is slightly greater than in 1933 and prices are averaging considerably higher. Cattle and sheep numbers at June 1, 1934, were higher than at the same date of 1933, the large increases in the west offsetting decreases in the east. Horses continued to decline in number, while hogs showed a decline which is probably due to excessive liquidation at the high prices. Hog prices continue at a high level. Butter production has increased slightly compared with the 1933 level, but cheese production shows a further decline to the lowest level in many years. The poultry industry has benefited from relatively high prices, with the output perhaps slightly reduced. Wool production and prices have been rather disappointing. Fruit production was sharply reduced by winter injury and drought in Eastern Canada and the Maritimes, but results were more satisfactory in British Columbia. Apple prices were very low in the early harvest season. Despite the severe crop losses in some districts, the general position of the Canadian farmer has improved somewhat, but conditions are not yet satisfactory.

Field Crops

Acreages.—According to the census of 1891, the area of field crops in 1890 amounted to 15.6 million acres. This grew to about 58.5 million



Loading a Grain Boat from the Elevators at the head of the Great Lakes.

Courtesy, Canadian Government Motion Picture Bureau.

84490-4

acres in 1933, an increase of 275 p.c. during the forty-three years. Two main factors were responsible for this extensive growth in sown acreage, firstly the opening of the Prairie Provinces, and secondly, the Great War, for, during 1913-19 alone, the area under field crops increased about 50 p.c.

Wheat.—A remarkable growth in the production of wheat is indicated by the table shown below dating back to 1870. Prior to 1905 the amount of wheat produced was less than 100 million bushels. For six years it remained steadily over this figure until 231 million bushels was reached in 1911. In only three of the next twenty years was wheat production less than 200 million bushels, viz., 1914, '18, and '19. At that time the abnormally high 1915 crop of 393 million bushels set a record for a number of years until 1922, when nearly 400 million bushels were produced. New high records were attained in 1923 (474 million bushels); in 1927 (480 million bushels); and in 1928 (567 million bushels). The years 1929 to 1931 were marked by less propitious climatic conditions for wheat growth, but an average crop was reaped in 1932. The 1933 crop was the lowest since 1924, amounting to only 269,729,000 bushels, while according to the provisional estimate the 1934 crop amounted to 275,252,000 bushels.

Production, Imports and Exports of Wheat for Canada, 1870-1934

Note.—(1) In the table below, wheat flour has been converted into bushels of wheat at the uniform average rate of $4\frac{1}{2}$ bushels to the barrel of 196 lb. of flour. (2) The exports and imports relate to the years ended June 30, 1871—1901, and July 31, 1911-34. They are not, of course, yet available for the year ending July 31, 1935. (3) The asterisk (*) against the census years 1870 to 1920 indicates that the production figures for those years are from the reports of the decennial censuses.

Year	Production	Imports of Wheat and Flour	Exports of Wheat and Flour	Year	Production	Imports of Wheat and Flour	Exports of Wheat and Flour
*1870 *1880 *1890 *1900 *1910	000 bush. 16,724 32,350 42,223 55,572 132,078 226,508	bush. 4,304,405 965,767 406,222 314,653 407,639 454,749	bush. 3,127,503 4,502,449 3,443,744 14,773,908 62,398,113 166,315,443	1925 1926 1927 1928 1929	000 bush. 395,475 407,136 479,665 566,726 304,520 420,672	bush. 379,194 407,119 473,308 1,345,881 1,374,726 244,220	bush. 324,592,024 292,880,996 332,963,283 407,564,186 186,267,210 258,637,886
1921 1922 1923 1924	300,858 399,786 474,199 262,097	372,942 397,519 440,741 619,404	185,769,683 279,364,981 346,566,561 192,721,772	1931 1932 1933 1934	$\begin{bmatrix} 321,325\\ 443,061\\ 269,729 \\ 275,252 \\ 2 \end{bmatrix}$		207,029,555 264,304,327 194,779,875

¹ Subject to revision ² Provisional estimate.

Other Grains.—These grains consist of oats, barley, flaxseed, rye, buckwheat, peas, mixed grain and corn. The first two have assumed real importance among the field crops of Canada. The volume of oat production has attained considerable dimensions, reaching the record total of close upon 564 million bushels in 1923. The area under crop has expanded from 3,961,356 acres in 1890 to 13,730,200 acres in 1934, when the production was estimated at 324,745,000 bushels. Barley, with a production of 11,496,000 bushels in 1870, yielded a record total of 136,391,400 bushels in 1928, while the yield for 1934 is now estimated at 63,748,000 bushels. Rye production amounted to 1,064,358 bushels in 1870, increased to 32,373,400 bushels in 1922, and receded to 5,437,000 bushels, according to the second estimate of 1934.

Values of Field Crops.—Prices of field crops were at an unusually high level during the War and until 1919, then slumped steeply, falling to a low level in 1923, but recovered considerably in the years up to 1930, when sharp declines commenced, bringing the prices of many crops to the

lowest recorded levels. The value of the field crops of Canada, which in 1910 was \$384,513,795, had increased by 1914 to \$638,580,000. As the effects of the War came to be felt, the maximum was reached in 1919 with a total of \$1,537,170,100. This value receded to \$899,226,200 in 1923; but the recovery of prices combined with excellent harvests, brought the value up to \$1,173,133,600 in 1927 and \$1,125,003,000 in 1928. Since then it has declined to \$948,981,000 in 1929, \$662,040,900 in 1930, \$432,199,400 in 1931, \$452,526,900 in 1932 and \$422,148,000, the unrevised estimate for 1933. The preliminary estimate for 1934 itemized below shows a total value of \$536,498,600. Prices in 1933 showed some improvement, and those received up to the end of November, 1934, indicate further distinct increases; these latter are subject to further revision, however, in accordance with the trend of farm prices during the remainder of the marketing season.

The Field Crops of Canada, 1934

(According to Provisional Estimates.)

Field Crop	Area	Total Yield	Total Value ¹
	acres	bush.	\$
Vheat	23,986,300	275, 252, 000	159,455,00
Oats	13,730,200	324,745,000	106,385,000
Barley	3,612,700	63,748,000	26,944,000
Rye	734,700	5,437,000	2,405,000
Peas	94,660	7,615,000	1,686,400
Beans	56,660	795,000	1.058,200
Buckwheat	407,200	8,793,000	4,699,000
Aixed grains.	1,158,900	37,481,000	15,464,000
Plaxseed	226,800	954,700	1,122,000
Corn for husking	161,100	6.589.000	4,283,0.0
Join for musiking	101,100	cwt.	1,200,000
Potatoes	568,800	48, 192, 000	23.839.000
Furnips, mangolds, etc.	187, 200	39,898,000	12,057,000
urinps, mangords, ecc	101,200	tons	12,001,000
Hay and clover	8,882,300	11, 155, 000	131, 221, 000
Alfalfa	678, 200	1,332,800	16.886.600
Fodde r c orn.	496,600	3,795,00	15,7(4,000
		1.543.000	10,964,00
Grain hay	1,007,000 52,100	412,700	2,326,000

¹ Preliminary estimates.

The Flour-Milling Industry.—This most important manufacture connected with the field crops dates back to the settlement made by the French at Port Royal (now Annapolis, N.S.) in 1605. Milling was, of course, an absolute necessity to the first settlers. The Napoleonic wars established the export business and for the next half-century the mills were closely associated with the commercial and banking history of the country. Large scale production in milling in Canada began with the competition between the two processes, stone and roller milling. By the '80's the roller process had secured a virtual monopoly and local mills gave way to large mills served by elevators at central points. The high quality of Canadian wheat became recognized throughout the world, and Canada's huge export trade in wheat and its products developed rapidly.

In 1932, according to the preliminary estimate, there were 1,290 mills including 1,000 country mills; the capital invested was \$58,283,212; while the value of products was \$84,748,800. The exports of wheat flour in the fiscal year 1868-69 were 375,219 barrels valued at \$1,948,696. It was not until the fiscal year 1898 that Canada reached over the million mark, when 1,249,438 barrels were exported with a value of \$5,425,760. This was increased to 12,021,424 barrels, valued at \$61,896,251, during the crop year ended July 31, 1923-24, which was the peak year for the exports. The exports receded to 5,454,636 barrels in 1933-34, with a value

of \$19,477,652. Canada normally ranks second among the world exporters of wheat flour, surpassed only by the United States.

The production record for the flour-milling industry in Canada, established in 1928-29 and amounting to 20,872,094 barrels, has not been maintained since that year. Wheat ground in commercial mills for the crop year ended July 31, 1933, totalled 66,791,977 bushels and flour produced amounted to 15,012,865 barrels. Preliminary figures for the crop year ended July 31, 1934, were 66,724,967 bushels of wheat and 14,954,974 barrels of flour.

The total daily capacity of flour mills in 1933-34 was approximately 105,000 barrels. Canada's largest flour mill has a daily capacity of 12,000 barrels and her largest milling company controls an active daily capacity of 18.725 barrels.

The Live-Stock Industry

Although somewhat overshadowed by the grain-growing industry, the raising of live stock has made very substantial progress, not perhaps so much in point of numbers as in the improvement of foundation stock. Fortunately, virulent animal diseases which affect the farm live stock of Europe, have never obtained a footing in Canada. Cattle which num-

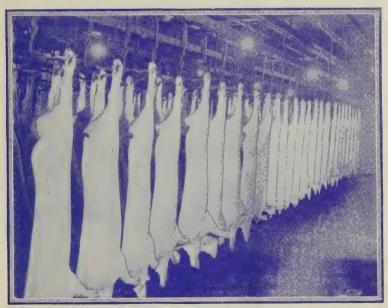


Cattle on Range in Western Canada. —The range area is the natural source of high-class young feeder cattle. Owing to the fact that ranchers have consistently used high-class bulls our commercial cattle from the range are exceptionally well bred and of good quality. Inset: A good type of market cattle raised at the Dominion Experimental Farm, Ottawa. These well-bred young cattle have great possibilities. They are strong, thrifty and of superior beef conformation. Animals of this type and quality invariably top the market and produce the class of beef that is in greatest demand.

Courtesy, Dominion Experimental Farm, Ottawa, and Canadian Government Motion Picture Bureau. bered 8,028,000 in 1931 increased successively to 8,510,500 in 1932, 8,876,000 in 1933 and 8,951,900 in 1934. Swine showed an increase from 4,000,000 in 1930 to 4,716,720 in 1931, which was fairly well maintained in 1932 but decreased to 3,800,700 in 1933 and 3,654,000 in 1934. The number of sheep fluctuated from 3,696,000 in 1930 to 3,608,000 in 1931, 3,644,500 in 1932, 3,385,000 in 1933 and 3,421,100 in 1934. Poultry on farms decreased in number from 65,468,000 in 1931 to 64,080,200 in 1932 and 59,324,400 in 1933, but increased slightly to 59,798,700 in 1934. The wool clip showed a substantial increase from 17,959,896 pounds in 1926 to 20,518,000 pounds in 1932, but owing to a marked falling-off in the average price of wool the value of the clip fell from \$4,140,000 in 1926 to \$1,093,800 in 1932. The production for 1933 was estimated at 19,206,000 pounds, valued at \$2,000,000.

Slaughtering and Meat Packing.—Since 1900 the separation between the farm and the manufacture and marketing of animal products has become more and more pronounced, leading to the development of an important slaughtering and meat-packing industry. Returns for 1933 show 135 establishments engaged in slaughtering and meat packing as compared with 141 in 1932; the capital invested increased from \$53,227,929 in 1932 to \$54,590,398 in 1933. The number of employees in 1933 was 9,289 as compared with 9,101 in 1932, but salaries and wages decreased from \$10,349,315 to \$10,103,744. The cost of materials used in 1933 was \$70,467,544, and the value of the products \$92,366,137.

Exports of cattle during the first nine months of 1934 numbered 48,518 head valued at \$3,063,725, of which 41,252 head valued at \$2,712,893 went to the United Kingdom and 4,120 head valued at \$254,007 to the United States; during the same period in 1933 exports of cattle numbered 43,179



Hog Carcasses Ready for Trimming into "Wiltshires" at a Canadian
Packing Plant.

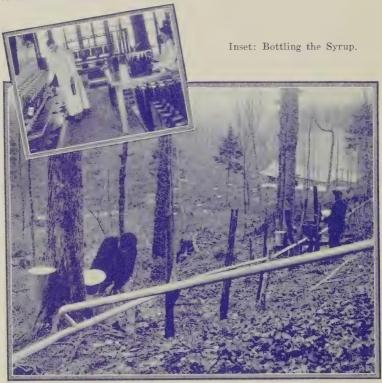
Courtesy, Canadian Government Motion Picture Bureau.

head valued at \$2,665,450, of which 36,415 head went to the United Kingdom and 3,734 head to the United States. Exports of sheep during this period totalled 1,387 head as compared with 1,168 for the nine months of 1933, and exports of swine 4,133 head as compared with 5,128 in 1933.

Exports of bacon and hams showed a very encouraging increase for the nine-month period. In 1933 total shipments to all countries amounted to 529,274 cwt, and in 1934 to 942,867 cwt, with respective values of \$5,793,211 and \$14,872,331. In each case the greater portion was sent to the United Kingdom, the amount for 1934 being 937.688 cwt, valued at \$14,723,999. The total export value of all meats was \$16,957,995 for the nine months of 1934 as compared with \$7,508,437 in 1933.

Total exports of animals and animal products increased from \$46,548,945 in 1933 to \$59,556,095 in 1934. Of the latter amount goods to the value of \$38,422.893 went to the United Kingdom and \$13,161.868

to the United States.



The Maple Sugar Industry of Eastern Canada.—An up-to-date method of running the sap to the evaporator by gravity. Although the season was short in 1934, the crop is estimated to have been good, with higher prices than prevailed in 1933 and a steady demand. The preliminary estimate of the value of sugar and syrup for 1934 is \$3,046,650 as compared with \$2,059,341 in 1933. Quebec produced about 63 p.c. of the output, Ontario about 34 p.c. and New Brunswick and Nova Scotia the remainder.

Courtesy, Canadian Government Motion Picture Bureau.

Special Crops

A feature of Canadian agriculture is the number of crops which are grown in localities specially suited for their production. Some of the more important of these are tobacco, sugar beets, maple syrup and sugar, and flax and hemp for fibre.

The various types of tobacco are grown in different regions of Quebec and Ontario and in increasing amounts, having practically tripled since 1900. The production for 1933 was 44,873,160 pounds from 46,898 acres. About 38,120,000 pounds will be harvested in 1934. Prices have improved.

The production of maple syrup and sugar in 1934 was valued at

\$3,046,650, about two-thirds of which came from Quebec.

Sugar beets are grown in the neighbourhood of sugar beet factories at Chatham and Wallaceburg in Ontario, and Raymond in Alberta, and there are other areas sown to this crop in Quebec and Manitoba. The production has made its most significant increase since the early war years. In 1933, the latest year for which factory statistics are available, the output of refined beetroot sugar amounted to 131,392,501 pounds valued at \$5,713,181. The production in 1934 is again high.

Flax for fibre and fibre-seed production expanded greatly during the

War, but has since declined.

Hops occupy a relatively small acreage in British Columbia, the yield in 1933 being 1,477,425 pounds.

Commercial gardening is an important occupation in many favoured

regions throughout Canada, principally in suburban areas.

Specialized poultry farming has increased in popularity in the past ten years, particularly in Ontario and British Columbia, and there has also been a large expansion in farm flocks. The effects of selective breeding are noticeable in improving the quality of eggs and dressed poultry. Grading of marketed products is also receiving more attention.

The total estimated production of honey in Canada in 1933 was 19,543,500 pounds as compared with 19,470,500 pounds in 1932. The 1933

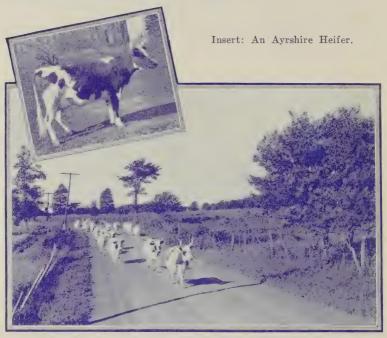
production was valued at \$1,706,800.

The production of red clover, alsike, alfalfa and sweet clover seed amounted to 13,216,000 pounds valued at \$1,141,520 in 1933. The production of timothy seed in 1933 amounted to 2,500,000 pounds valued at \$163,000.

Dairying

Dairying has long held an important place among Canadian industries. Cattle were introduced by the first settlers and there naturally followed the making of home-made butter and cheese, at first purely for home consumption, but later for export. The export market grew; during the fiscal year ended Mar. 31, 1926, Canada exported 1,483,000 cwt. of cheese valued at nearly \$34,000,000 and 233,000 cwt. of butter valued at nearly \$9,000,000. Since 1926 exports of these commodities have shown a decline, especially butter exports, which dropped from about 99,000 cwt. valued at \$3,352,000 in the fiscal year 1927 to 11,629 cwt. valued at \$389,-149 for the fiscal year 1931; for the fiscal year ended 1932 exports of butter increased to 109,173 cwt. valued at \$2,362,888 and dropped again to 32,060 cwt. valued at \$589,537 for the fiscal year 1933. For the fiscal year 1934 exports of butter were 44.019 cwt. valued at \$818,996. Cheese exports for the fiscal year ended 1932 were 854,247 cwt. valued at \$10,-593,967 and, for 1933, 857,116 cwt. valued at \$8,758.415. For the fiscal vear 1934 exports were 749,669 cwt. valued at \$8,176,271.

An analysis of production figures since 1916 indicates a general tendency toward increase in the manufacture of creamery butter. In 1916 the output was 82,563,130 pounds valued at \$26,966,355 which in 1924 had increased to 178,893,937 pounds valued at \$60,494,826. During the next five years the production was fairly steady, but in 1931 a new high record of 225,955,246 pounds was established; this fell in 1932 to 214,002,127 pounds. Low average prices prevailing in both years produced low total values of \$50,198,878 and \$40,475,479 respectively. In 1933 the production totalled 219,232,546 pounds. For the first ten months of 1934 creamery butter shows an increase of 7 p.c. over the same period in 1933.



A Herd of Ayrshire Dairy Cattle.

Courtesy, Dominion Experimental Farm, Ottawa, and
Canadian Government Motion Picture Bureau.

Factory cheese reached its peak of production in 1917 when 194,904,336 pounds valued at \$41,180,623 were manufactured. In 1919 the total quantity produced was 166,421,871 pounds with a total value of \$44,586,168 which was the peak in values. During the next five years the production fluctuated between 136 and 162 million pounds, and again in 1925 a high production of 177,139,113 pounds valued at \$36,571,556 was reached. In 1926 the production was 171,731,631 pounds valued at \$28,807,841, but since that time and particularly during 1929, 1930, 1931, 1932 and 1933 there has been a very marked falling-off in production with low valuations. Quantities and values for the five years respectively are as follows: 118,746,286 pounds and \$21,471,330; 119,105,203 pounds and \$18,089,870; 113,956,639 pounds and \$12,824,695; 120,524,243 pounds and \$11,379,922; 111,146,493 pounds and \$11,127,984.

Values of the Dairy Production by Provinces, 1933, with Dominion totals for 1925-1933

Province	Dairy Butter	Creamery Butter	Home- made Cheese	Factory Cheese	Miscel- laneous Factory Products	Milk otherwise used	All Products*
Prince Ed. Island. Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia.	\$ 332,000 1,380,000 1,342,000 2,484,000 4,970,000 1,292,000 2,795,000 1,687,000 341,000	1,367,516 629,798 12,514,764 16,031,189 3,612,069 3,492,117 4,308,962	3,000 1,000 25,000 12,000 10,000 15,000 23,000	34,724 2,465,388 8,178,247 71,000 89,870 149,594	609,937 147,716 1,170,914 6,561,330 485,120 328,663 421,200	1,172,000 1,804,000 22,301,000 33,833,000 4,661,000 4,439,000 5,571,000	4,938,453 4,305,238 42,689,066 71,982,766 10,776,189 12,238,216 12,870,756
1932 1931 1930 1929 1928 1927 1926	15,311,000 21,450,000 27,385,000 28,929,000 29,103,000 30,435,121 28,252,777	43,546,109 40,475,479 50,198,878 56,670,504 65,929,782 64,702,538 65,709,986 61,753,390 63,008,097	94,120 108,500 115,555 82,800 82,000 70,654 80,240	11,379,922 12,824,695 18,089,870 21,471,330 30,494,463 25,522,148 28,807,841	22,091,945 20,581,490 18,879,335 17,767,271	71,627,000	291,742,857 297,625,347 294,874,590 277,304,979

^{*}Includes the value of skim milk and buttermilk for the years 1930-1933.

Fundamental changes have been going on in the industry and some of the milk that formerly went into cheese appears now to be made into butter or sold in the fluid form. It will be observed from the above table that the total value of all products of the industry shows a fairly satisfactory trend over the six years 1925-30; the unusually low prices for all dairy produce prevailing during 1931 and 1932, have materially reduced the values for those years. Commencing with 1933 prices began to improve and this improvement is still continuing.

The Fruit-Growing Industry

In certain sections of Canada, the climate and soil are eminently adapted to fruit growing, and the Annapolis valley, the Niagara peninsula and the Okanagan district of British Columbia are world famous centres of fruit production. Experimental shipments of apples from the Annapolis valley were first made in 1861. Up to 1890 the annual production of apples by Nova Scotia rarely exceeded 100,000 barrels; but after that date there was a pronounced increase in acreage and in production, which latter reached 1,000,000 barrels in 1909, and 1,900,000 barrels in 1911. Further high records were made in 1919 with over 2,000,000 barrels, and in 1922, when 1,891,850 barrels were packed and sold from the Annapolis valley and adjacent districts. In Ontario, where the commercial production of all varieties of fruit has reached its highest development, apples have been grown from the middle of the eighteenth century, but commercial orcharding has developed only during the past 50 or 60 years, and was only possible when the building of the railways permitted trees and fruit to be rapidly transported. In British Columbia commercial fruit growing is of comparatively recent origin, growth in production having been particularly rapid since 1910. The first apple trees were planted about 1850, but not until after completion of the C.P.R. in 1886 were many trees planted for commercial purposes. In 1933 British Columbia produced 4,647,640 boxes of apples.

In 1933 the total value of Canadian commercial fruits was \$16,224,000, including: apples, \$10,464,800; pears, \$567,300; plums and prunes, \$257,400; peaches, \$1,146,300; cherries, \$494,600; strawberries, \$1,847,200; raspberries, \$717,100; apricots, \$84,000; and grapes, \$645,300.



Grading and Packing Peaches in the Niagara Peninsula, Ontario.

The preliminary estimate places the 1934 apple crop for Canada at 3,596,600 barrels, as compared with 5,329,800 barrels in 1933, the large reduction being the result of severe winter injury, frosts at blossom time and summer drought in Eastern Canada. As compared with 1933, the Nova Scotia crop shows a reduction of about one-third, while the Ontario crop was reduced by about two-thirds, chiefly in the late varieties. The British Columbia apple harvest was slightly larger than that of 1933.

CHAPTER V

THE FOREST WEALTH OF CANADA— LUMBERING—PULP AND PAPER

The forests of Canada ranked third, after agriculture and mining, in 1932 among the primary industries in their contribution to the national production. It is estimated that forest products make up about 15 p.c, of all the freight hauled on Canadian railways. The large excess of exports over imports which the group "wood, wood products and paper" provides, amounting to \$123,784,411 for the fiscal year ended March, 1934, constitutes an influential factor in Canada's international trade.

Of the total forested area of 1,153,005 square miles, about 32.8 p.c. carries merchantable timber, and 35.8 p.c. carries young growth. The

remaining 31.4 p.c. is non-productive under present conditions.

The total volume of standing timber has been estimated at 267,733 million cubic feet capable of being converted into 448,255 million board feet of lumber and 1,528,767,000 cords of pulpwood, ties, poles and similar forest products. The eastern provinces are estimated to contain about 56.2 p.c., the Prairie Provinces about 15 p.c., and British Columbia about 29 p.c. of this total volume. The total annual drain on the forests including loss by fire, etc., is estimated at 2,812 million cubic feet, but it does not follow that our capital will be exhausted in the ninety-five years which a simple calculation might imply. The rate of utilization will no doubt be reduced as the supply diminishes and losses due to fires, wasteful utilization and other preventable causes are curtailed. An annual increment of 10 cubic feet per acre, which is quite possible under forest management, would provide in perpetuity for the needs of a population of over twenty-six millions at our present annual rate of use, which amounts to about 271 cubic feet per capita.

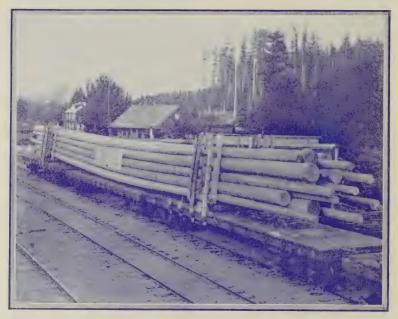
Represented in the three great forest divisions of Canada are approximately 160 different species of plants reaching tree size. Only 31 of these species are coniferous, but the wood of these forms 80 p.c. of our standing

timber, and 95 p.c. of our sawn lumber.

Operations in the Woods

The value of forest production resulting from operations in the woods of Canada is, according to latest figures (1932) \$92,000,000 annually, being made up of logs and bolts for sawmills valued at \$18,000,000; pulpwood for domestic use and export valued at \$36,750,000; firewood valued at \$30,600,000; hewn railway ties valued at \$1,350,000; poles valued at \$1,400,000; and other primary forest products, such as square timber, fence posts and rails, and wood for distillation. These figures, for 1932, are very much reduced from those of immediately preceding years (see table on next page) due to the curtailment of operations on the one hand and the lowering of the general price level on the other. It has been estimated that this rate of total primary forest production involves the cutting of over 1,882,000,000 cubic feet of standing timber annually. In connection with operations in the woods, the forests not only provide the raw material for

the sawmills, pulp-mills, wood distillation, charcoal, excelsior and other plants, but also logs, pulpwood and bolts for export in the unmanufactured state and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products which are finished in the woods ready for use or exportation. There are also a number of minor forest products, such as maple sugar and syrup, balsam gum, resin, cascara, moss and tanbark, which all go to swell the total.



Operations in the Woods—A carload of 120 ft. piling being shipped from British Columbia.

Courtesy, Canadian Government Motion Picture Bureau.

The following table gives the total values of the products of woods operations in Canada for the years 1928 to 1932 inclusive.

Value of the Products of Woods Operations, by Products, 1928-32

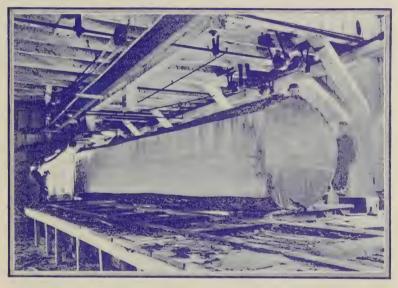
Product	1928	1929	1930	1931	1932
Logs and bolts. Pulpwood. Firewood. Hewn railway ties. Square timber. Poles. Round mining timber. Fence posts. Wood for distillation.	74,848,077 41,164,270 5,871,724 3,772,137 4,934,371 998,146	\$ 79,278,543 76,120,063 41,764,507 5,730,423 4,179,077 6,677,559 1,028,126 1,674,489 455,967	\$ 75,563,041 67,529,612 43,786,064 5,038,899 2,945,748 6,733,259 885,343 1,585,985 335,333	\$ 32,889,204 51,973,243 44,237,948 4,144,169 151,114 3,057,546 958,681 1,388,074 266,080	\$ 18,029,759 36,750,910 30,627,632 1,353,664 99,403 1,411,209 809,700 990,568 251,281
Fence rails. Miscellaneous products		477,569 2,183,816 219,570,129	624,968 1,825,245	454,205 1,603,666 141,123,930	253,077 1,529,049 92,106,252

The Lumber Industry

Except in Nova Scotia, 90 p.c. of the forest land is still the property of the Crown—the lumbermen having been granted cutting rights only—

and is administered by the various provincial departments.

Canada's sawmills produced, in 1932, 1,809,884 M feet board measure of sawn lumber, valued at \$26,881,924. The greater part of this lumber is coniferous softwood, as the supply of the more valuable hardwoods such as hickory, oak and walnut (once plentiful in southern Ontario and Quebec) has been almost exhausted. The mills also produced 1,802,008 thousand shingles, valued at \$3,556,823; 208,321 thousand lath, valued at \$474,889; as well as numerous other products to the value of \$7,593,011, bringing the total value of the products of the industry up to \$38,506,647, which is only about 61 p.c. of the value of production for the previous year.



Squaring Big Timber in a Pacific Coast Sawmill.

Courtesy, Canadian Government Motion Picture Bureau.

The following table gives the production of lumber and other saw-mill products, by provinces in 1932. B.C. produced over 44 p.c. of the total value, Que., 22 p.c., Ont., 18 p.c., followed by N.B., N.S., Alta., Man.. Sask., and P.E.I. in the order named.

Production of Lumber and other Sawmill Products in Canada, 1932

Province	Lumber I	Production	Other Sawmill Products	Total All Products
Prince Edward Island Nova Scotia. New Brunswick Quebec. Ontario Manitoba. Saskatchewan. Alberta.	79,126 $112,314$ $358,663$ $212,140$ $23,708$ $15,549$	\$ 94,930 1,029,462 1,690,464 5,942,606 4,745,636 296,500 257,993 915,695	\$ 14,921 486,792 518,452 4,004,084 711,405 11,842 3,459 53,009	\$ 109,851 1,516,254 2,208,916 9,946,690 5,457,041 308,342 261,452 968,704
British Columbia	934,373	11,908,638 26,881,924	5,820,759	17,729,397 38,505,647

Markets for Canadian lumber now include practically all the more important countries of the world. Canadian timbers have been given a preference in the British market.

The Pulp and Paper Industry

The pulp and paper industry ranks first among Canadian manufacturing industries in gross and net value of products, as well as in total number of employees and wages and salaries paid. Its development has taken place for the most part during the present century, and is due chiefly to the existence in Canada of abundant water powers adjacent to

extensive resources of the various pulpwood species.

The value of gross output of the industry increased rapidly and steadily until the boom years following the Great War when it jumped to a peak of over \$232,000,000 in 1920. This was followed, in 1921, by a drop which was general throughout the industrial field. From that year on there was a steady recovery resulting in a total for 1929 of \$243,970,761 followed by successive decreases to \$123,415,492 in 1933. The large decreases of the latest four years have been due to both lower price levels and diminished production; however, for the latest year, 1933, production has been substantially greater than for the previous year although the total value is nearly 10 p.c. less.

The following table gives the gross and net values of production for the industry as a whole for the six years 1928 to 1933.

	Gross	
		Production
1928	\$233,077,236	\$144,586,815
1929	243,970,761	147,096,012
1930	215,674,246	133,681,991
1931	174,733,954	110,786,276
1932	135,648,729	86,677,762
1933	123,415,492	75, 782, 971
1929 1930 1931 1932 1932	243,970,761 215,674,246 174,733,954 135,648,729	147,096,012 133,681,991 110,786,276 86,677,762

The net value of production, which represents the difference between the values of raw materials and the finished products, is the best indication of the relative importance of a manufacturing industry. Regarded from this viewpoint the pulp and paper industry has headed the lists of manufacturing industries since 1920, when it replaced the saw mills. The industry has also headed the lists in wages' and salaries' distribution since 1922, when it replaced the sawmills in this respect, and it has been first in gross value of products since 1925, exceeding flour-milling.

There are three classes of mills in the industry. These, in 1933, comprised 28 mills making pulp only, 42 combined pulp and paper mills, and 25 mills making paper only.

Production of Wood Pulp in the Two Principal Provinces, and in Canada, 1925-33

Year	Qu	Quebec		tario	Canada	
1 681	Quantity	Value	Quantity	Value	Quantity	Value
1925 1926 1927 1927 1928 1929 1930 1931 1931 1932	tons 1,370,303 1,672,339 1,749,965 2,018,566 2,174,805 1,833,000 1,513,658 1,240,442 1,360,704	\$ 50,490,231 59,218,576 60,884,169 67,467,328 69,286,498 58,703,067 41,884,387 31,124,954 29,860,706	1,095,987 1,007,118 1,050,335 1,255,010 1,043,559 958,100 785,405	\$ 33,559,038 38,008,752 35,034,468 35,708,079 39,963,767 31,463,873 22,944,943 18,735,105 18,644,259	3,229,791 3,278,978 3,608,045 4,021,229 3,619,345 3,167,960 2,663,248	\$ 100,216,383 115,154,199 114,442,550 121,184,214 129,033,154 112,355,872 84,780,819 64,412,453

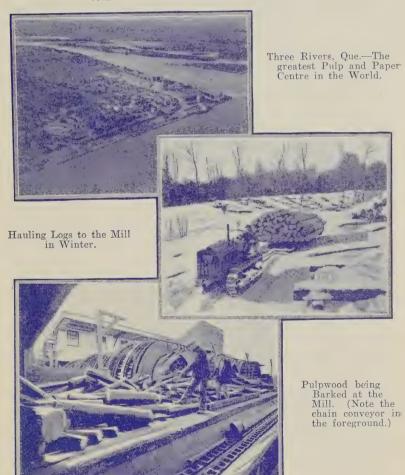
In 1933 the 70 mills making pulp produced 2,979,562 tons valued at \$64,114,074, representing an increase of 12 p.c. in quantity but a slight decrease in value from 1932, and of this about 75 p.c. by quantity was made in combined mills and used by them in paper-making. About 4 p.c. was made for sale in Canada and 21 p.c. was made for export.

Of the total pulp production in Canada in 1933, 61·2 p.c. was ground wood, 18·6 p.c. unbleached sulphite, 11·9 p.c. bleached sulphite, 6·2 p.c.

sulphate and soda and the remaining 2.1 p.c. screenings.

The total production of paper in 1933 was 2,416,810 tons, which, with certain unspecified products, was valued at \$97,030,429. Newsprint and similar paper made up 2,021,965 tons, or 83 7 p.c. of the total, valued at

THE PULP AND PAPER INDUSTRY



Courtesy, Topographical Survey, Department of the Interior and Canadian Government Motion Picture Bureau.

\$66,959,501, paper boards made up 9.6 p.c., wrapping paper 2.8 p.c., book and writing paper 2.5 p.c., and miscellaneous papers the remainder. The Canadian production of paper increased three and three-quarter times in the period from 1917 to 1929, owing chiefly to the increase in the production of newsprint, although practically all the different kinds of paper that are used in Canada at the present time can be produced in Canadian mills.

Canada's newsprint production in the year 1933 was 113·2 p.c. greater than that of the United States, a few years ago the world's chief producer. In 1913 the production across the border was over three times as much as in Canada, but during the following 13 years, while production still increased in both countries, the gain in Canada was over 437 p.c. as compared to less than 30 p.c. in the United States. Since 1926 there has been an actual, as well as a relative, decrease in the United States production.

The latest monthly figures of Canadian newsprint production are:-

1934— January February March April.	188,374 174,447 210,129	1934— May June July August	229,637 208,238	1934— September October November	235,021 240,869
April	216,507	August	216,164	December	

Trade in Newsprint and Other Forest Products.—A striking reflection of the increased production of newsprint between 1910 and 1934 is seen in the trade figures. The export trade in paper did not develop until the beginning of the present century. By 1910, however, the exports of newsprint paper were valued at over \$2,000,000; in 1920 they were valued at over \$53,000,000, whilst during the subnormal fiscal year 1933-34 Canada exported 2,024,057 tons of newsprint valued at \$73,238,482. This single item of export thus ranks at present second only to wheat. Canadian newsprint is exported to over thirty countries and our total exports are greater than those of the rest of the world combined.

During the earlier stages of industrial development the exports of the wood group were made up largely of unmanufactured products such as square timber and logs. At the time of Confederation these raw materials made up over 41 p.c. of the total export trade. To-day, while the wood and paper group forms a smaller part of the total (about 25 p.c. for the fiscal year 1933-34), its character has changed. Of the exports of products of forest origin, fully or chiefly manufactured goods now form 74 p.c. and unmanufactured or partly manufactured, 26 p.c. Raw materials form only about 8 p.c. of the total.

Industries Founded on Wood and Paper.—According to the latest available statistics there were, in 1932, 4,153 establishments using wood or paper as principal raw materials. These consisted of 1,938 depending on sawmills, and 2,215 depending on the paper-mills for their materials. They employed 64,988 workers who were paid over \$73,000,000 and their products were valued at more than \$195,000,000. The development of the paper-using industries in Canada has been greatly accelerated within recent years by the production of cheap paper and paper-board made of wood-pulp, composition roofing, fibre wallboard and many other products which have found a definite place in modern building construction. For a more detailed treatment of industries founded on wood and paper the reader is referred to pages 91 and 92.

CHAPTER VI

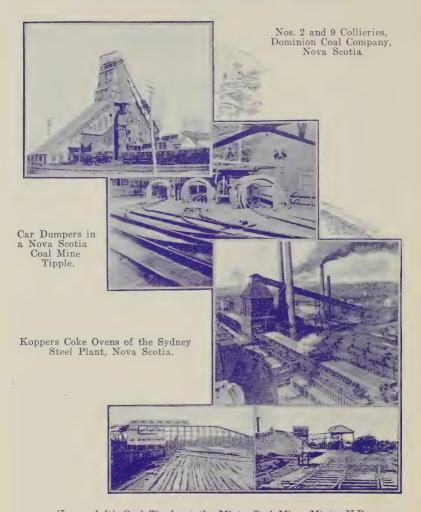
MINES AND MINERALS

Canada's mineral industry, second in importance in net value of production among the primary industries of the Dominion in 1933, being surpassed in output value only by the great basic industry of agriculture, brings to the nation a prestige beyond the monetary measure of the mineral output. First in nickel, first in asbestos, second in cobalt, gold and copper, third in silver and zinc, and fourth in lead among the world's producers, Canada enjoys an enviable position in the mining world with every prospect of future expansion. About one-third of the freight tonnages moved in Canada consist of ores or other mineral products.

Historical.—Though isolated discoveries had been frequent, systematic prospecting began only in the middle of the nineteenth century with the setting up of the Geological Survey of Canada under Sir William Logan, when the herculean task of exploring, mapping and geologically surveying Eastern Canada was begun. In 1863 a comprehensive "Geology of Canada" was issued. Thus, between 1843 and 1863, may be said to have occurred the real inauguration of the mining industry in Eastern Canada. Meanwhile the Fraser River and Cariboo gold rushes of the 'fifties had founded the colony of British Columbia.

The completion of the C.P.R. in 1885 opened a second chapter of even greater significance. Vast new territories where the prospector showed the way to other enterprise were rendered accessible. The most important immediate find was made near Sudbury, Ont., in 1883, when in blasting a cutting for the railway a body of nickel-copper ore was uncovered which has since made the district world-famous. Other discoveries occurred later on in British Columbia, where during the 'nineties a remarkable succession of ore-bodies, especially auriferous copper and argentiferous lead-zinc deposits, was located in the southeastern section of the province. The famous Klondyke rush of 1898 must not be omitted in this cursory enumeration. As transportation facilities were extended, other ore deposits in different regions were found, the silver of the Cobalt district, discovered in 1903 during the construction of the Temiskaming and Northern Ontario Railway, and the extraordinarily rich gold finds at Porcupine (1909) and Kirkland Lake (1912) being notable examples. More recently, copper-gold and auriferous quartz discoveries in the Rouyn section of western Quebec led to the development of numerous mines and the construction of the Horne Copper Corporation's smelter at Noranda, Quebec, where blister copper containing gold was first poured in December, 1927. Gold mines have since been opened up in the Red Lake, Matachewan and Michipicoten areas of Ontario, and gold, copper, zinc and other metalbearing deposits of commercial value have been found in Manitoba, where large concentrating and smelting plants have been erected and brought into operation. Refineries for the production of electrolytic copper have been constructed and brought into operation at Copper Cliff, Ontario, and Montreal East, Quebec. In 1930, deposits of high grade silver-radium ores were discovered at Echo Bay, Great Bear Lake, N.W.T.

COAL MINING IN THE MARITIME PROVINCES



(Lower left) Coal Tipple at the Minto Coal Mine, Minto, N.B.
(Lower right) King's Coal Mine, Minto, N.B.

Courtesy, Dominion Steel and Coal Co., Minto Coal Co. and
Canadian Government Motion Picture Bureau.

The low metal prices prevailing during the past three years have retarded the development of new base-metal mines in Canada, the Monarch lead-zinc mine at Field, B.C., being the outstanding exception. On the other hand, Canadian producers of primary gold have benefited greatly since 1931 from the pronounced increase in the price of the precious metal. The profitable extraction of lower grade ores has been in-

itiated at some of the larger and well-established mines, properties which were under development have been brought to the producing stage as rapidly as possible, and the search for new properties intensified.

Statistics of the Modern Industry.—Since 1886, when comprehensive data were first collected for the mining industry as a whole, the advance has been truly remarkable. Valued at \$10,221,255 in 1886, or \$2.23 per capita, ten years later production had more than doubled. In another ten years, the aggregate had grown three and one-half times. This total again more than doubled by 1916. In 1933 Canada's mineral production was computed to be worth \$221,482,000. This represented an increase of 21·3 p.c. above the value of the 1932 production and reflects the almost

general improvement in trade conditions.

In order of total values the leading mineral products of Canada in 1933 were: gold, coal, copper, nickel, natural gas, zinc, lead, silver, asbestos, cement, sand and gravel, petroleum, stone, clay products, lime and salt. This list of sixteen products includes all that reach an output value of \$1,000,000 or over; together they make up about 98 p.c. of the total recorded value of mineral production. In addition to these main products, about 32 other minerals were extracted in commercial quantities during the year. Canada's known mineral resources comprise a wide variety of minerals, many deposits of these being of sufficient richness to be of world importance. Canada produces normally about 90 p.c. of the world's nickel, 60 p.c. of its asbestos, nearly 35 p.c. of its cobalt, 12 p.c. of its gold, 12 p.c. of its lead, 10 p.c. of its silver, 15 p.c. of its zinc, and 13 p.c. of its copper; the Dominion is now also one of the world's larger producers of the platinum metals, radium and uranium. The value of metallic mineral production in 1933 attained a 42 p.c. increase over 1932. Metals as a group still retain the premier position in Canadian mineral production; this is due largely to important increases in the production of gold, copper, lead, zinc and nickel.

The value of production of non-metallics increased from \$93,239,852 in 1928 to \$97,861,356 in 1929, then receded to \$83,402,349 in 1930, \$65,-346,284 in 1931 and \$56,788,179 in 1932; in 1933 these minerals showed

an encouraging increase to \$57,770,463.

The sub-group fuels (mainly coal) realized a production valued at \$47,778,436 in 1933 or about 83 p.c. of the group total. In 1928 the production of crude petroleum was 624,184 barrels valued at \$2,035,300; in 1933 it had risen to 1,145,333 barrels valued at \$3,138,791. This increase is almost entirely due to the greater production from Western Canada, especially the Turner Valley and other areas in the outer foothills.

Clay products and other structural materials, including cement, stone, sand and gravel, and lime, showed an increase from \$49,737,181 in 1928 to \$58,534,834 in 1929; this has been followed by successive recessions to

\$16,696,687 in 1933.

In 1929, for the first time in Canada's history, the mineral production rose above the three hundred million dollar level and recorded an increase of 13 p.c. over that of 1928, the former record year. The figures of values for 1933 established new records for gold and selenium.

The mineral production of Canada is given, classified by groups and by provinces, in the following tables. From the second table it will be noticed that in 1933 Ontario produced 49.8 p.c. of the total, British Columbia was second with 13.9 p.c. and Quebec third with 12.7 p.c.

Mineral Production, Calendar Year 1933, and Official Estimate for Calendar Year 1934

Item	19	933	19	341
	Quantity	Value	Quantity	Value
METALLICS		S		8
Gold fine oz. Estimated exchange on gold produced Silver fine oz. Nickel. lb. Copper lb. Lead. lb. Zinc. lb. Other metals.	2,949,309 15,187,950 83,264,658 299,982,448 266,475,191 199,131,984	60,967,626 23,382,611 5,746,027 20,130,480 21,634,853 6,372,998 6,393,132 2,387,866	2,964,395 16,350,029 130,346,400 367,054,472 342,811,000 300,747,113	61,279,000 40,963,000 7,764,000 30,674,000 26,881,000 9,169,000 7,581,000
Totals	-	147,015,593	_	192,668,000
Non-Metallics				
	11,903,344 23,138,103 1,145,333 1,131	35,923,962 8,712,234 3,138,791 3,449	13,891,138 22,025,000 1,440,200 492	42,432,000 8,524,000 3,774,000 1,000
Totals	-	47,778,436	_	54,731,000
Other Non-Metallics Asbestos ton Feldspar ton Gypsum ton Mica ton Quartz ton Sodium sulphate sulphur ² Sulphur ² ton Tale and soapstone Other non-metallics	158,367 10,658 382,736 944 185,783 280,115 57,373	5,211,177 105,117 675,822 49,284 297,820 1,939,874 485,416 510,299 190,836 538,892	160,056 14,941 462,433 746 251,483 318,487 81,343	4,927,000 120,000 817,000 102,000 492,000 2,015,000 519,000 671,000 180,000 734,000
Totals	-	10,004,537		10,577,000
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products (brick, tile, sewer pipe, pottery, etc.) Cement brl. Lime ton Stone, sand and gravel	3,007,432 323,540	2,262,835 4,536,935 2,432,306 7,464,611	3,773,979 430,000	2,385,000 5,729,000 3,204,000 9,043,000
Totals	-	16,696,687	_	20,361,000
Grand Totals	-	221, 495, 253	_	278,337,000

¹ Preliminary figures. ² In sulphuric acid made and in pyrites shipped.

Mineral Production of Canada, by Provinces 1931, 1932 and 1933

Province or Territory	1931		1932		1933	
Nova Scotia. New Brunswick. Quebec. Ontario Manitoba. Saskatchewan. Alberta British Columbia. Yukon Northwest Territories.	\$ 21,080,746 2,176,910 35,696,563 96,113,235 9,965,854 1,931,880 23,580,727 35,337,756 2,145,347	p.c. of total 9·24 0·96 15·65 42·15 4·37 0·85 10·34 15·50 0·94	\$ 16, 198, 573 2, 223, 505 24, 512, 470 79, 509, 239 8, 714, 459 1, 681, 697 21, 183, 079 26, 767, 522 1, 891, 371	p.c. of total 8-9 1-2 13-4 43-5 4-8 0-9 11-6 14-7 1-0	\$ 16,966,183 2,107,682 28,141,482 110,205,021 9,026,951 2,477,425 19,702,953 30,794,504 2,041,223 31,829	p.c. of total 7.7 0.9 12.7 49.8 4.1 1.1 8.9 13.9 0.9
Totals	228,029,018	100-00	182,681,915	100.0	221,495,253	100 · 0

Review of Conditions in 1934

The pronounced improvement experienced in almost all branches of the Canadian mining industry during 1933 and more especially in the later months of the year continued with growing certainty into 1934. During the first half of 1934 notable gains in value were recorded for the output of every metal with the exception of arsenic; this was especially the case for gold, copper, lead, nickel, the platinum metals, silver and zinc. The mining industry, however, continued to feel keenly the relatively low level of base-metal prices, more especially those for copper, lead and zinc, and it is a tribute to the efficiency of the base-metal mining industry that operators should have been able to maintain production during the period of excessively low prices which have prevailed during the past few years.

Canadian producers of primary gold, especially those operating on low grade ores, have, in common with those of other countries, benefited greatly since 1931 from the pronounced increase in the price of the precious metal, an increase realized in an era of peculiar economic conditions which were not only complex in nature but international in scope. The more outstanding events associated with the recent rise in the price of gold include the suspension of specie payments by the United Kingdom on September 21, 1931; the direct control and licensing of Canadian gold exports by the Government; the purchase by the Government of all new gold bullion produced in the Dominion with the payment to the miner of equalization exchange: the departure of the United States from the gold standard on April 19, 1933, and the announcement on January 31, 1934, by President Roosevelt, that thereafter the United States Treasury would purchase gold from any quarter at \$35 per fine ounce. This announcement was made under the powers conferred on him by Congress to raise the price of gold, if necessary, up to \$41.34 per fine ounce, or double the former standard value. Legislation passed by the Canadian Government on June 15, 1934, provides for a levy of 25 per cent on the premium value of gold deposited for sale at the Royal Canadian Mint produced from ore mined in Canada. It is provided, however, that the tax shall not operate to reduce the amount received by the depositor for gold below \$30 per ounce and is not applicable to mines which have not paid dividends continuously since 1933 (see p. 143); deductions for income tax are allowed.

The first step toward implementing the International Silver Purchase Agreement was taken in 1934 when the Minister of Finance called for tenders as of August 20th for the delivery of silver bullion up to an amount of 250,000 ounces.

Improvement in the non-metallic and structural materials industries was almost general in 1934; advances were particularly pronounced for coal, asbestos, feldspar, graphite, gypsum, magnesite, silica, sodium sulphate, clay products, cement and lime. The recovery in the structural materials industry is especially encouraging after the several years of annual recessions.

The most outstanding feature of the Canadian mining industry in 1934 was undoubtedly the great increase in the search for and exploration and development of auriferous ores; prospecting activities were not only intensified in the older fields but were extended into areas heretofore considered by the miner as almost virgin in character.

In Nova Scotia, coal mining continued to constitute the major mineral producing industry and recorded during the first half of 1934 an increase

of 62.7 p.c. in tonnage output compared with the corresponding period of the previous year. Diatomite, salt and gypsum, three of the more important economic minerals of the province, were produced in excess of 1933 and gold mining developments were more widespread than usual with the industry showing distinct signs of a general revival.

Coal and gypsum mining comprise two of the more important branches of the industry in New Brunswick; both minerals were produced throughout 1934. The province also continued to contribute other mineral wealth in the form of petroleum and grindstones, together with clay

products, stone and other structural materials.

The stability and well-being of the industry in Quebec, in 1934, was distinctly reflected, not only in the increased value of mineral output, but by the magnitude of the development and exploration programs conducted throughout the various mineral-bearing areas of the province. The copper mining and smelting operations of Noranda Mines, Limited. at Rouyn were continuous in 1934 and constitute the largest of their kind in the province. It was reported that construction on a 500-ton cyanide plant was commenced by the company and that this unit would be in operation in 1935. The electrolytic copper refinery of the company's subsidiary, Canadian Copper Refiners, located at Montreal East, was in production throughout the year. The concentrator of Aldermac Mines, Limited, was placed in operation and shipments of concentrates commenced. In the Eastern Townships the Consolidated Copper and Sulphur Co. at Eustis was active throughout the year; the copper concentrates of this company continued to go to the United States' smelters. Gold-mining developments were almost widespread throughout the northwestern part of the province. The operators in 1933, including Siscoe, Green Stabell, Beattie, Granada, Bussieres and O'Brien-Cadillac reported important gold outputs, while new gold mills coming into production in 1934 included the McWaters and Sullivan Consolidated; the intention to erect a mill at the Arntfield mine was announced. Improvement in the asbestos mining industry was strongly evidenced in 1934 by the very considerable increase in sales over those of the preceding year.

Prospecting for gold ores and the exploration and development of known auriferous deposits were more extensive in Ontario than for many years. These activities were common to both the older producing camps and new areas. The higher price for the metal stimulated the study and examination of new deposits, or ore zones, heretofore considered of doubtful economic importance. In the two older camps, Kirkland Lake and Porcupine, some of the properties, closed prior to the revaluation of gold. were reopened and placed in production or further explored as to their economic possibilities. The higher price for the metal also permitted, in some of the producing mines, a very considerable extension or increase of pay ore with the resultant milling of rock of lower gold content and important increases in ore reserves. A review of this kind is necessarily of a cursory nature and as such can only include some of the more outstanding features of the year's mining developments. During 1934, the Hollinger Consolidated Gold Mines Ltd. carried out important mining operations on promising gold deposits in Hislop township and the Matachewan area, in the latter district the company completed a mill at the Young-Davidson mine and in the same area mining and construction operations were conducted on the Otisse property by Matachewan Consolidated Mines. In the Sudbury area McMillan Gold Mines Ltd. commenced milling, and in the Little Long Lac field, in Thunder Bay district,

mining operations were conducted on numerous gold-bearing deposits; important reserves of gold ore were reported as proven at the Little Long Lac mine and milling was commenced at this property in the latter part of the year. At Sturgeon Lake the St. Anthony mine came into production and in the district of Patricia new mills were completed and placed in operation by Casey Summit Gold Mines, Pickle Crow Gold Mines. J.M. Consolidated Mines and Central Patricia Gold Mines. Construction of a mill in the Red Lake area was commenced at the McKenzie-Red Lake gold property. Other new mills reaching production in 1934 included those of the North Shore Gold Mines near Schreiber and the Munro-Cræsus in the Beatty-Munro area. Shipments of auriferous ores were reported from the Cameron Island mine, Shoal Lake; the Moffatt Hall mine, Kirkland Lake; and the Dikdik in the Thunder Bay district. At Sudbury both the International Nickel Company of Canada and Falconbridge Nickel Mines conducted continuous mining and smelting operations throughout the year and the production of nickel, copper and the platinum metals showed substantial gains over the preceding year. In the silvercobalt mining industry the principal mining operations were conducted at the Gowganda and Cobalt mines of M. J. O'Brien Ltd. At Copper Cliff the electrolytic copper refinery of the Ontario Refining Co. was operated continuously during 1934; this plant treats the blister copper produced by the International Nickel Company.

Reports in 1934 of sensationally rich gold discoveries in the Sturgeon River area, east of lake Nipigon, resulted in an old time gold rush to this field; large areas of ground were staked and many gold claims recorded.

The industry in Manitoba was featured largely by the greatly stimulated activity in the gold-bearing areas; mining and milling were continuous at the Central Manitoba and San Antonio mines. Milling operations were resumed by Diana Gold Mines and important development work was furthered at the Gunnar Gold, Forty-Four, God's Lake, Smelter Gold and Gabrielle mines. Other gold-mining operations in the province, during 1934, included those of the Vanson Manitoba Gold Mines, Island Lake, Wylie-Dominion and Wallace Lake Gold Mines. In the Lac du Bonnet section commercial shipments of feldspar were made; lithium ores have also been worked in this area. At Flin Flon the mining and metallurgical operations of the Hudson Bay Mining and Smelting Company were continuous, the company producing blister copper, refined zinc and the precious metals, gold and silver. The ore deposit of this company extends into the province of Saskatchewan and that province is given credit for metals recovered to the west of the boundary.

An outstanding feature in Saskatchewan was the increase in shipments of natural sodium sulphate in 1934. The coal-mining industry of the province continued to make important contributions to the mineral production of the Dominion and important investigations were completed, in 1934, concerning the economic possibility of Saskatchewan clays of the

Fuller's earth type.

Mining in Alberta is almost entirely confined to the production of fuels and minerals for the fabrication of structural materials. General conditions in the industry showed signs of improvement and, during the first part of the year, increases were recorded for coal and petroleum as compared with the corresponding period of 1933; in the Fort McMurray district the production of bituminous sands was continued.

British Columbia witnessed most satisfactory developments in its mining industry in 1934. At Trail the Consolidated Mining and Smelting



Courtesy, Canadian Government Motion Picture Bureau,

Company of Canada showed an increased output of metals and both its metallurgical plants and the Sullivan mine were operated continuously. At Britannia Beach the Britannia Mining and Smelting Company produced zinc, copper and auriferous pyrite concentrates; operations at the mine were curtailed compared with former years. The mines and smelter of the Granby Consolidated Mining, Smelting and Power Co. at Anyox. were active throughout the year and at Field the Base Metals Mining Corporation was in steady production and completed important development programs on both the east and west lead-zinc ore bodies. Goldmining activity in British Columbia, as in most of the other provinces, was the most prominent feature of the industry in 1934. Prospecting and exploration were greatly increased and were prevalent in nearly all the gold-bearing districts of the province. Important development work was conducted on the better known properties in the Cariboo, Bridge River, Nelson and Omineca districts. The more outstanding mining operations included those of the Premier, Pioneer, Bralorne, Vidette, Cariboo, Gold Quartz, Windpass, Relief Arlington, Reno, Surf Point, Twin Lakes, B.R.X., Wayside, Ymir Yankee Girl, Velvet, Dunwell, Columario, Bradian and Atlin-Ruffner. Coal mining is a major branch of the mining industry in this province and the output of the mineral, in 1934, comprised a very

important part of the provincial mineral production. The production of gypsum, clay products and structural materials continued as a prominent factor in the industrial life of British Columbia.

Mining in the Yukon Territory was confined to the various placer gold operations and the mining of silver-lead ores by the Treadwell Yukon Company. At Great Bear Lake in the Northwest Territories extensive development work was carried out on various deposits of silver and silver-pitchblende ores. The mill of the Eldorado Gold Mines was in operation and important shipments of mine products were made to the

company's radium refinery located at Port Hope, Ontario.

The annual estimate of Canadian mineral production, as based on a preliminary survey conducted by the Bureau for 1934, indicates that mining, one of the Dominion's great basic industries, has not only successfully weathered the successive years of world depression but has definitely emerged with the attainment of outstanding records for the production of several of the major metals. During the calendar year 1934 the estimated value of the nation's mineral output totalled \$278,337,000, an increase of 25.7 p.c. over 1933. The enhanced price of gold continued as a very important factor in the stimulation of the production of that metal and while there was only an estimated increase of about 15,000 ounces over the preceding year the increase in the amount of exchange equalization paid to the mines amounted to 75 p.c., resulting in a new high record for the value of Canadian gold production.

Notwithstanding the continuation of relatively low prices for the base metals, the producers of primary metals established all time high records in the quantity of nickel, copper, lead and zinc while the output of platinum metals achieved its highest point in the history of Canadian metal

mining.

The almost general advance in trade and industry was reflected in a distinct improvement in the non-metallic mining industries; compared with 1932 the value of mica production increased 107 p.c.; quartz, 65 p.c.; coal, 18 p.c. and feldspar, 14 p.c.; increases in both quantity and value were

recorded for gypsum, salt, sodium sulphate and sulphur.

Improvement in the structural material industries was general, advances being made in the value of clay products, cement, lime, sand and gravel and stone. These industries, collectively, realized a gain of 22 p.c. in the value of their output as compared with that of the preceding year, a gain which is consistent with an increase in building activities.

CHAPTER VII

THE WATER POWERS OF CANADA

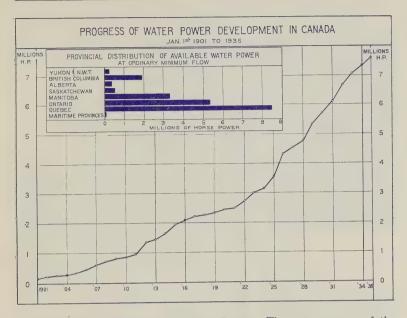
Canada, rich in other natural resources, occupies a favourable position with respect to water powers. In most sections of the country innumerable lakes furnish stabilizing conditions favourable to control and regulation of river flow. At January 1, 1935, there was a total installation of 7,547,035 h.p. which, great as it is, represents only 17·27 p.c. of an estimated total possible installation of 43,700,000 h.p. According to the most recent compilation of World Power Conference data, Canada's waterpower installation ranks second, being exceeded only by that of the United States, while her per capita installation of 0·69 h.p. is almost seven times that of the United States. More than 87 p.c. of Canada's hydraulic installation is in central electric stations.

The table below shows the hydraulic turbine installation as at January 1, 1935, and also the estimated potential power by provinces. These estimates include only rivers where the flows and heads have been measured; they are based on continuous power available twenty-four hours each day at 80 p.c. efficiency, i.e., 80 p.c. of the theoretical power. The two estimates shown are: first, power available throughout the year based on the minimum flow or flow during the dry periods; and second, the maximum available for six months. Because power is seldom required continuously 24 hours each day to the full capacity of the generating equipment, water can generally be stored during the hours of light demand and used during the hours of heavy demand. Consequently, whenever feasible, power plants are equipped with generating machinery having a capacity much greater than the theoretical continuous power of the waterfall.

Available and Developed Water Power in Canada, by Provinces, January 1, 1935

Province or Territory	Available 24-hour Power at 80 p.c. Efficiency		/
	At Ordinary Minimum Flow	At Ordinary Six Months' Flow	Turbine Installation
Prince Edward Island	h.p.	h.p. 5,300	h.p.
New Brunswick. Quebec. Ontario. Manitoba.	68,600 8,459,000 5,330,000	128,300 169,100 13,064,000 6,940,000	116,367 133,681 3,703,320 2,355,755
Saskatchewan Alberta British Columbia. Yukon and Northwest Territories.	3,309,000 542,000 390,000 1,931,000 294,000	5,344,500 1,082,000 1,049,500 5,103,500 731,000	390,925 42,035 71,597 717,717 13,199
Totals	20,347,400	33,617,200	7,547,035

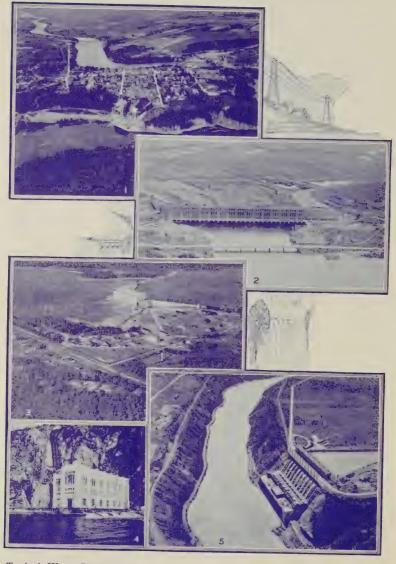
The progress of water-power development in Canada has been extremely rapid as is indicated by the diagram on p. 75, its stability has been proven during the recent years of industrial and financial depression.



Provincial Distribution of Water Power.—The water powers of the Maritime Provinces while small in comparison with the sites in the other provinces constitute a valuable economic resource the development of which is supplemented by power from abundant indigenous coal supplies. Quebec with almost double the available water power and more than one and one-half times the hydraulic installation of Ontario, the province next in order, has achieved a remarkable development during the past ten years, her installation considerably more than doubling in that period. More than 83 p.c. of her total installation is operated by nine large joint stock company central station organizations. Ontario, like Quebec, without local coal supplies, also has abundant water-power resources. Hydro-Electric Power Commission of Ontario, a co-operative municipallyowned enterprise, province-wide in its field, operates plants aggregating almost 63 p.c. of the total hydraulic installation of the province and serving 757 municipalities. Of the Prairie Provinces, Manitoba has the greatest power resources and the greatest development, 77 p.c. of the total hydraulic development of the three provinces being installed on the Winnipeg river to serve the city of Winnipeg and adjacent municipalities and, over the transmission network of the Manitoba Power Commission, some 60 municipalities in southern Manitoba. British Columbia, traversed by three distinct mountain ranges, ranks fourth in available power resources and her hydraulic development is exceeded only by those of Quebec and Ontario. The water powers of the Yukon and Northwest Territories, while considerable, are so remote from markets as to limit their present commercial development to local mining uses.

Construction During 1934.—The Shawinigan Water and Power Company installed the initial 160,000 h.-p. of its Rapide Blanc development on the St. Maurice river. The Beauharnois Light, Heat and Power Com-

TYPICAL CANADIAN HYDRO ELECTRIC INSTALLATIONS



Typical Water-Power Installations across Canada.—The illustration shows:

1. Grand Falls Station, N.B., Gatineau Power Co. Installation 80,000 h.p., average head 115 ft. The water to operate the four turbines, each 20,000 h.p. capacity, is conveyed from the head works shown in the upper right section of the picture through a tunnel of horseshoe section, 2,700 ft. in length and 24 ft. in diameter, under the central section of the town of Grand Falls to the power house shown in the lower centre of the picture. The

pany added 100,000 h.-p. to the 200,000 h.-p. previously installed in its plant at Beauharnois on the St. Lawrence river and is expected to make a further similar addition during 1935. The Hydro-Electric Power Commission of Ontario installed a 1,200 h.-p. plant on the Albany river to serve the newly opened Crow River mining area. The town of Orillia proceeded with plans for 4,600 h.-p. development near Minden on the Gull river. In British Columbia the Bridge River Power Company, Limited, completed a temporary development of 4,600 h.-p. to serve the Bridge River mining district pending the construction of its much larger plant at the same site. In Nova Scotia 3,750 h.-p. was installed at Hartville to serve the Minas Basin Pulp and Paper Mills.

Central Electric Stations

Over 87 p.c. of all water power developed in Canada is developed by central electric stations and, although there are a large number of stations (260) which derive their power entirely from fuels and 41 hydraulic stations which also have thermal auxiliary equipment, 98 p.c. of all electricity generated for sale is produced by water power.

The production of electric energy by central electric stations has increased at a very rapid rate since the Great War. The output in 1919, the first year for which production has been compiled, amounted to 5,497,204,000 kilowatt hours and by 1930 it had grown to 18,093,802,000 kilowatt hours, or an increase of 230 p.c. With the incidence of the industrial depression it dropped 10 p.c. in 1931 and a small percentage in 1932, but in 1933 about half the loss was regained and the output for the first ten months of 1934 indicates a record output for the year of over 20,000 million kilowatt hours. About one-third of this power is used in the pulp and paper industry for driving machines and in electric boilers, while electric boilers in all industries use about 20 p.c. of the total production. Other large users of electric energy are the primary iron and steel, nonferrous smelting, acids, alkalies and salts plants, abrasive products and flour

power is transmitted over a 132,000 v. steel tower line, 104 miles in length, to the mills of the New Brunswick International Paper Co. at Dalhousie and over a 66,000 v. line to the Fraser Company's mills at Edmundston.

2. Beauharnois Station, Quebec, Beauharnois Light, Heat and Power Company. Initial designed capacity, 500,000 h.p.—present installation 300,000 h.p., average head 80 ft. Plant operated by water conveyed from Lake St. Francis through combined ship and power canal (uncompleted at date of picture) 15 miles in length, 3,000 ft. wide and providing for 27 ft. navigation, provision being made for locks at the lower or Lake St. Louis end. The power is sold to the Hydro-Electric Power Commission of Ontario and to Montreal Light, Heat and Power Consolidated.

3. Great Falls Station, Manitoba Power Co., Ltd., (Winnipeg Electric Co.) at Great Falls, Winnipeg river, 75 miles from Winnipeg. Installation 168,000 h.p., average head 56 ft. Power transmitted to Winnipeg, Manitoba Paper Company's mill at Pine Falls and to Central Manitoba Mines, Ltd.

4. Coquitlam-Buntzen Station, No. 2, Vancouver Power Co. (British Columbia Power Corporation, Ltd.) on north arm Burrard Inlet, 16 miles from Vancouver. Installation 40,500 h.p., average head 395 ft. Power distributed in Vancouver and districts adjoining. Note the triple line of penstocks running almost vertically down the face of the cliff in the rear of the power house.

5. Queenston Station, Ontario Hydro-Electric Power Commission of Ontario. Installation 560,000 h.p., average head 305 ft. The intake is located 2 miles above Niagara Falls, the water being conveyed through 123 miles of canal to the screen house, thence down the cliff in concrete embedded teel penstocks. Power is distributed over the Niagara System of the Hydro-Electric Power Commission.

Courtesy, Dominion Water Power and Hydrometric Bureau, Dept. of the Interior.

and feed mills. These six industries consume about half of the total production of all central electric stations. In 1933, approximately 10 p.c. was used for residence lighting and other domestic services and $5\cdot 5$ p.c. was exported to the United States.

According to latest data the rated capacity of electric motors in manufacturing industries constitutes 77 p.c. of that of all power machines and in several industries, such as sugar refineries, dyeing, cleaning and laundering, bridge and structural steel, machinery, brass and copper, cement, fertilizers and artificial ice plants, the power used is almost exclusively electric. Over 84 p.c. of all electric motors in manufacturing industries are driven on power purchased from central electric stations and the remainder are driven by electricity generated within the industries.



Electric Welding.—Welding the Outer End of a Rear Axle Housing to the Flange in a Canadian Motor-Car Plant—The important industrial provinces of Ontario and Quebec are coal-less, but their vast water powers have enabled them to generate hydro-power economically for use in the great primary and fabricating industries. An increasing quantity of central station power is used in mining, smelting, pulp and paper, and electro-chemical operations.

Courtesy, Canadian Government Motion Picture Bureau.

The substitution of electric energy for other forms of energy for driving machines is increasing each year and also it is displacing coal in other fields; enormous quantities of electric energy are used, as mentioned above, for producing steam in electric boilers, particularly in paper mills. Most of the power used for this purpose is off-peak or surplus power, for which there is no other market at the time, and when it is withdrawn coal is substituted, but in some cases it is purchased on contract to be delivered as required. In 1924, only 260,489,000 kilowatt hours were used in electric

The consumption grew steadily and in 1933 it amounted to 3.608.400,000 kilowatt hours, or over 13 times the 1924 consumption. New boilers are being installed in industries using steam for process purposes and for the first nine months of 1934 the total consumption was 42 p.c. over the 1933 figure for the same period. The growth, however, has not been entirely in off-peak power, which if not sold would go over the dam, nor in exports to the United States; the total production less the exports and deliveries to electric boilers, or what may be considered as "firm" power, has grown at a rapid rate during the present year and the total for the first nine months of the year was 15 p.c. over the corresponding total in 1933 and 2.5 p.c. over the 1930 total, the previous peak year. Electric furnaces and electro-chemical industries use large quantities of electric energy and, despite the relatively low industrial level of production in the industry in 1933, the primary iron and steel industry purchased 118,500,000 kilowatt hours for all purposes and the non-ferrous smelting and refining industry used 1,221,117,000 kilowatt hours, of which 1,213,-805,000 was purchased from central electric stations. Domestic use, or the consumption for residence lighting and appliances in the homes, has also grown from 1,489,575,000 kilowatt hours in 1930 to 1,650,395,000 kilowatt hours in 1933, or by 8 p.c. during what has been probably the worst three years Canada has experienced in an economic sense.

Investments in central electric stations amounted to \$1,386,532,055 which was larger than for any other manufacturing industry, revenues for 1933 amounted to \$117,532,081 and 1,371,806 domestic customers were served. These are approximately 60 p.c. of all families in Canada, both urban and rural. The average cost for domestic service was 2·18 cents per kilowatt hour, or considerably less than half of the average cost in the United States.

The average monthly outputs of the large central electric stations in Canada, 1926-34, are shown below.

Average Monthly Output, Central Electric Stations in Canada, 1926-34 (Thousands of kilowatt hours)

Year	From Water	From Fuel	Total	
926	1,193,481	16,746	1,007,78	
927		18,944	1,212,42	
928		21,192	1,361,37	
929	1,441,203	27,622	1,468,82	
930.		25,230	1,488,56	
931	1,339,907	26,071	1,365,97	
932		25,845	1,322,20	
933.	1,436,486	26,150	1,462,6	
934 (ten months' average)		28,302	1,713,5	

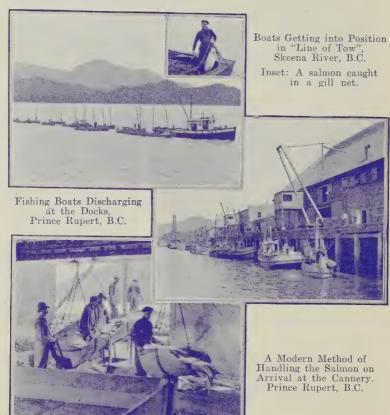
The above figures are interesting as showing the consistent progress of the industry from 1926 to 1930. Even in the worst of the depression years, 1932, the drop in output was only a little over 11 p.c. of the maximum, and, for 1934, while industry generally was just beginning to recuperate, the central electric stations will, judging from the ten-month figures, establish a new all-time record for energy produced.

CHAPTER VIII

THE FISHERIES OF CANADA

The Canadian Fishing Grounds.—Canada's extensive fishing grounds border the Atlantic and the Pacific and also include an unrivalled inland fresh-water system of lakes and rivers. On the Atlantic, from Grand Manan to Labrador, the coast line, not including lesser bays and indentations, measures over 5,000 miles. The bay of Fundy, 8,000 square miles in extent, the gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles, or over four-fifths of

THE SALMON FISHERIES OF BRITISH COLUMBIA



Courtesy, Canadian Government Motion Picture Bureau.

the fishing area of the North Atlantic. In addition, there are 15,000 square miles of Atlantic inshore waters controlled entirely by the Dominion. Large as are these areas, they represent only a part of the fishing grounds of Canada; the Pacific coast of the Dominion measures 7,180 miles in length and is exceptionally well sheltered, while throughout the interior is a series of lakes which together contain more than half of the fresh water on the planet, Canada's share of the Great Lakes alone amounting to over 34,000 square miles—a total which does not include lake Winnipeg (9,398 square miles), lake Manitoba and others of even greater area.

Still more important than the extent of the Canadian fishing grounds is the quality of their product. Food fish improve in proportion to the purity and coldness of the waters in which they are taken and, by this standard, the Canadian cod, halibut, herring, mackerel, whitefish and salmon are the peers of any in the world. By far the most valuable fisheries of the western hemisphere, if not of the globe, belong to Canada.

Statistics of the Modern Industry.—The present fishing industry of Canada is the growth of the past 60 years. In 1836 the production of fish in what are now the Maritime Provinces had an estimated value of \$1,500,000, while that of Lower Canada was about \$1,000,000. In 1870 total production was worth \$6,500,000 and was again more than doubled by 1878. In the '90's it passed \$20,000,000 and in 1912, \$34,000,000. In 1932 the value was \$25,957,109, and in 1933, \$27,558,053, this increase marking the first upward movement since 1928. The totals given represent the total value of fish marketed, whether in a fresh, dried, canned or otherwise prepared state.

The tables following show the production of the industry by provinces for the years 1900, 1914 and 1933, and the production by principal

kinds for the years 1932 and 1933.

The fisheries also employ considerable capital and labour. In the primary operations of catching the fish the total capital represented by the vessels, boats, nets, traps, weirs, wharves, etc., was \$25,389,482 in 1933, of which \$21,093,282 was invested in the sea fisheries and \$4,296,200 in the inland fisheries. Employees in these primary operations numbered 65,506. In the secondary operations of fish-canning and curing the establishments numbered 620, the capital invested was \$15,532,775 and the employees numbered 14,042 for 1933.

Growth of the Fisheries by Provinces, 1900, 1914 and 1933

Province	Val	ue of Product	Per cent of Total Value			
_	1900	1914	1933	1900	1914	1933
Prince Edward Island. Nova Scotia. New Brunswick Quebec Ontario. Manitoba Saskatchewan Alberta British Columbia Yukon	1,333,294	\$ 1,261,666 7,730,191 4,940,083 1,924,430 2,755,291 849,422 132,017 86,720 11,515,086 69,725	\$ 842,345 6,010,601 3,061,152 2,128,471 2,089,842 1,076,136 186,417 144,518 12,001,471 17,100	p.c. 4.9 36.2 17.5 9.2 6.2 2.1 1.2 22.7	p.c. 4·1 24·7 15·8 6·2 8·8 2·7 0·4 0·3 36·8 0·2	p.c. 3·1 21·8 11·1 7·7 7·6 3·9 0·7 0·5 43·5 0·1
Totals	21,557,639	31,264,631	27,558,053	100.0	100.0	100.0

Fisheries Production by Principal Kinds, 1932 and 1933

(Each over \$1,000,000 in value and arranged by value in 1933)

	19	32	1933	
Kind	Quantity Caught	Value Marketed	Quantity Caught	Value Marketed
Salmon. Lobster. Cod. Herring. Halibut. Whitefish. Haddock.	cwt. 1,331,054 483,488 1,428,941 1,862,372 193,845 138,478 360,185	\$ 8,037,904 4,745,311 2,193,621 1,473,288 1,227,680 1,193,634 1,114,802	cwt. 1,456,501 374,916 1,561,647 2,056,706 200,824 152,135 268,881	\$ 9,758,346 3,524,355 2,598,756 1,808,970 1,694,405 1,136,400 832,029

Trade in Fish and Fish Products.—Although the domestic consumption of fish in Canada is increasing, the trade still sends largely to foreign markets. Perhaps 60 p.c. of the annual catch is an average export. In the calendar year 1933, total exports amounted to \$20,223,610, of which \$8,796,015 went to the United States and \$4,384,007 to the United Kingdom. The most important single export is canned salmon (to the United Kingdom and European markets), followed closely by canned lobster, while cod, dry-salted (to the West Indies, South America, etc.) is third in order of value. For fresh fish, especially whitefish and lobsters, the United States is the chief market. In brief, Canada's export trade in fish falls below that of the United Kingdom and Norway alone.

Canadian imports of fish and fish products including fish oils, etc., in

1933, amounted to \$1,694,-325, of which about 30 p.c. came from the United States; 36 p.c. of the imports were canned fish, chiefly sardines.



Lobster Fishing in New Brunswick.—Pulling the traps. Inset: Freshly boiled lobster ready for canning.

Courtesy, Canadian Government Motion Picture Bureau.

The expansion described above was featured by numerous changes in conditions. In early days the cod and haddock of the Atlantic were the most important items of the catch; to-day British Columbia, with her enormous salmon and halibut fisheries, takes the lead among the provinces (a leadership that in earlier times belonged to Nova Scotia), accounting for nearly half of the catch. The lobster fishery of Eastern Canada has also become vastly more important, until it is now the largest fishery of the kind in the world. But the greatest element of change has been contributed by improvements in the methods of catching and preparing the fish, and especially by the development of the fish-canning industry. In 1870 there were but three lobster canneries on the Atlantic coast of Canada; in 1933 these canneries numbered 329 employing over 6,000 people: 30,000,000 lobsters is a normal catch. The salmon canneries of the Pacific are all large ones and numbered 44 in 1933. The salmon pack of British Columbia in that year was 1,265,072 cases of 48 lb. each, an output greater than that of the previous year, and equal to the average yearly production.

Materials Used and Values of Products of Fish-Canning and -Curing Establishments, 1931-33

Material and Product	1931	1932	1933
	\$	\$	\$
Material used— Fish. Salt. Containers. Other.	$\begin{array}{c} 9,137,505\\ 351,781\\ 2,220,770\\ 210,778 \end{array}$	7,708,713 170,385 2,190,935 193,598	8,178,543 216,618 2,321,918 243,210
Totals	11,920,834	10,263,631	10,960,289
Product— Fish marketed for consumption, fresh Fish canned, cured or otherwise prepared	5,168,401 13,658,492	4,243,614 12,440,511	4,337,130 13,043,193
Totals	18,826,893	16,684,125	17,380,323

Game Fish.—The foregoing is a purely industrial and commercial survey. Fishing for sport, however, has its economic side in a country of such famous game fish as the salmon of the Restigouche and other rivers of the Maritime Provinces; the black bass and speckled trout of the Quebec and Ontario highlands, the red trout of the Nipigon and the salmon and rainbow trout of British Columbia. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundreds of guides find employment in this field during the summer months.

The Government and the Fisheries.—The Dominion Department of Fisheries (first established on a separate basis in 1930) controls the tidal waters of the Maritime Provinces and British Columbia, and the fisheries of the Magdalen islands in Quebec province. The non-tidal fisheries of the Maritime Provinces, Ontario and the Prairie Provinces, and both the tidal and non-tidal fisheries of Quebec (except the Magdalen islands) are controlled by the respective provinces, but the right of fisheries legislation for all provinces rests with the Dominion Parliament. A large staff of inspectors, officers and guardians is employed to enforce the fishery laws, and a fleet of vessels patrols the coastal and inland waters to prevent poaching and to assist in the carrying out of the regulations. The main

object of legislation has been the prevention of depletion, the enforcement of close seasons, the forbidding of pollutions and obstructions, and the regulation of nets, gear, and of fishing operations generally. The Government has also taken steps from time to time in the field of direct assistance to the industry, including fish collection services on the Atlantic coast; the broadcasting by radio of reports of weather probabilities, bait and ice supplies, ice conditions along the coast, and prevailing local market prices; the payment of bounties (under the Washington Treaty); instruction in improved methods of curing fish and demonstrations in the larger centres, by a fish cookery expert, of the various ways of preparing fish for the table. In addition an extensive system of fish culture has been organized, the Dominion operating, in 1933, 24 main hatcheries, 9 subsidiary hatcheries, and 8 salmon retaining ponds, while stations for the conduct of biological research into the numerous complex problems furnished by the fisheries are established at Halifax, N.S., St. Andrews, N.B., and Nanaimo and Prince Rupert, B.C.

GOVERNMENT FISH HATCHERIES



Courtesy, Canadian Government Motion Picture Bureau.

The Canadian fisheries are inexhaustible, but the prosperity of the fishing industry depends, to a greater extent than in the past, upon the domestic consumption. The health-giving properties of fish and its palatableness are emphasized by the Government in its publicity campaign, and it has been suggested that an increase of even five pounds per capita per annum in the domestic consumption would bring to the industry as a whole a prosperity unequalled by any period in the past.

CHAPTER IX

THE FUR TRADE

Statistics of the Modern Industry.—Although the rapid advance of settlement has greatly restricted the reservoir of fur-bearing animal life cradled in the vast expanses of Northern Canada, yet, after nearly three and a half centuries of exploitation, Canada still holds a foremost place in the ranks of the world's fur-producing countries.

Raw furs are at present the only economic return from hundreds of thousands of square miles of the area of the Dominion and are a resource

in which all the provinces and territories have a share.

Commencing with the year 1881, records of the value of raw fur production were obtained in the decennial censuses, but from 1920 the Dominion Bureau of Statistics has issued annual reports, prepared from statements furnished by the Provincial Game Departments, which are based on returns of licensed fur traders. In 1881 the value of pelts taken was \$987,555; by 1910 it had become \$1,927,550; the figures for the seasons ended June 30, 1922-33 are given below. The values given are the market values of the pelts taken by trappers and those sold from fur farms. The proportion of the latter has risen from about 3.5 p.c. of the total value for earlier years of the decade to 13 p.c. in 1928-29, 26 p.c. in 1930-31, and 30 p.c. in 1932-33, thus indicating the growing importance of fur farming (see pp. 87-8).

Numbers and Values of Pelts Taken, Seasons 1921-22 to 1932-33

Season	Number of Pelts Taken	Total Value	Season	Number of Pelts Taken	Total Value
1921-22. 1922-23. 1923-24. 1924-25. 1925-26. 1926-27.	4,963,996 4,207,593 3,820,326 3,686,148	\$ 17, 438, 867 16, 761, 567 15, 643, 817 15, 441, 564 15, 072, 244 18, 864, 126	1927-28 1928-29 1929-30 1930-31 1931-32 1932-33	3,601,153 5,150,328 3,798,444 4,060,356 4,449,289 4,503,558	\$ 18,758,177 18,745,473 12,158,376 11,803,217 10,189,481 10,305,154

In order of value, silver fox is far ahead of any one of the other kinds, with a total in the season 1932-33 of \$3,135,885. Next in importance is muskrat, with a total value of \$1,581,606, and following closely is mink, with \$1,438,375. None of the other kinds reach the million dollar mark. Beaver, which in the early years of the fur trade was of such importance that it was used for Canadian currency, occupied, in the season under review, only fourth place, the value of output amounting to \$698,660. Otter, also mentioned prominently in the records of the early trade, had in the season 1932-33 a take of 8,885 skins, valued at \$138,348. The value of the different kinds of fox, combined, for the season 1932-33 was \$4,891,563, or 47 p.c. of the entire output of Canadian furs in the season. Practically all of the silver fox pelts are from fur farms, and large proportions of the blue, patch or cross, and red fox pelts are likewise from the farms. White fox, on the other hand, is a product of the wilds, most of the pelts being taken in the Northwest Territories, and the northern parts of Quebec and Manitoba.

Average prices of the principal kinds of furs were higher than in the season 1931-32 for silver and white fox, mink, muskrat, marten, fisher, wolf and skunk, and lower for blue, patch or cross and red fox, beaver, ermine, otter and raccoon.

MUSKRAT FARMING IN ONTARIO



Courtesy, Canadian Government Motion Picture Bureau.

Canadian manufactures of fur goods, including the dressing and dyeing of furs, showed a continuous growth up to and including the year 1928, but furs being regarded as luxuries—although in the more northerly

latitudes they are almost necessities—the industry is one which suffered severely from the effects of the general depression. In 1929, the value of output of the two industries combined was \$20,861,039, decreasing to \$17,359,592 in 1930, to \$15,818,733 in 1931, while in 1932, the latest year for which figures are available, production had a value of only \$12,176,349, a decrease of 23 p.c. from the value of 1931, and a decrease of 42 p.c from that of 1929.

Accompanying the growth of manufactures was a stimulation of the import trade in raw furs, including the pelts of many animals not taken in Canada, but also including Canadian varieties which have found their way to the main world markets through the auction sales. For the 12 months ended June 30, 1924, imports of raw furs were \$7,505,328, and by 1929 they had risen to \$13,289,043. The imports for the 12 months ended June, 1931 (\$5,455,483), June, 1932 (\$2,709,285) and June, 1933 (\$2,482,170) reflected the conditions existing after Oct., 1929, to an abnormal degree.

Export Trade in Furs.—Prior to the War, London and Leipzig held the positions of outstanding fur markets of the world, but during 1914-18 St. Louis captured the supremacy for the United States although, since the War, London has regained her former prestige. A result of the changed situation thus brought about has been that Montreal, Winnipeg and, to a lesser extent, Edmonton have become important fur marts for buyers from the larger world centres. Montreal held the first fur auction sale to take place in Canada in 1920. Auctions are now held quarterly at Montreal, and regular sales are also held at Winnipeg and Edmonton.

A century ago the value of furs exported exceeded that of any other Canadian product; the total output is not seriously declining, but exports for the year 1933 were only about 2·1 p.c. of our total exports of Canadian merchandise, owing to the rapid growth of other branches of our external trade. The trend of export values over the past ten years was definitely upward until 1929, although the trend of prices generally was downward. Since 1929 exports have fallen from a value of \$24,565,000 to \$10,757,412 in 1933 without materially changing the percentage to total exports. Of the total export values of furs in 1933, 63·0 p.c. went to the United Kingdom and 23·2 p.c. to the United States.

Fur Farming.—In the early days of the fur trade it was the practice for trappers to keep foxes caught in warm weather alive until the fur was prime; from this has arisen the modern industry of fur farming. The industry is devoted chiefly to the raising of the silver fox, a colour phase of the common red fox established through experience in breeding. But although the fox is of chief importance, other kinds of fur-bearers are being successfully raised in captivity among which are mink, raccoon, skunk, marten, fisher, coyote and badger. Muskrat farming also is a branch of the industry and numerous areas of marsh land are being utilized for raising this fur-bearer. The farming of muskrat consists chiefly of making provision for an adequate food supply for the animals and in giving protection from their natural enemies, i.e., hawks, owls, etc. The number of fur farms in Canada in 1932 was 6,296, compared with 6,541 in 1931 and 6,524 in 1930. During the five-year period 1928-32 the number increased by 46 p.c. Fox, mink and raccoon farms are the chief kinds numbering 5,221, 645 and 261 respectively.

The total number of fur-bearing animals born on fur farms in 1932, exclusive of muskrat and beaver, was 155,190, compared with 165,378 in 1931, and the number which died from various causes was 29,502, compared with 32,256 the previous year. For muskrat and beaver no exact data can

be supplied. The numbers of pelts sold were 135,718, valued at \$3,046,627 in 1932 and 133,248 valued at \$3,071,460 in 1931. The total number of all kinds of animals sold from farms in 1932 was 7,216, valued at \$243,193, and for 1931, 9,623 valued at \$492,000. Silver fox in 1932 contributed 79 p.c. of the total and the highest price received during the year for a silver fox was \$867, compared with \$800 in the previous year.



Silver Fox Undergoing Inspection for Registration in the Records of the Canadian National Silver Fox Breeders' Association. The operation, as carried out, is quite humane, facilitating handling and minimizing risk of injury to the animal.

Courtesy, Canadian Government Motion Picture Bureau. Preliminary figures of fur farming for 1933, made available at the time of going to press, show that in that year there were 6,473 such farms of which 5,507 were fox farms. The total capital invested was \$13,774,768 as compared with \$12,724,395 in 1932 and the animals, exclusive of muskrat and beaver, born on fur farms numbered 164,429, an increase of nearly 6 p.c., while those which died from various causes numbered 25,035-a decrease of a little over 15 p.c. Pelts sold were fewer in number, being 134,381, but their value was considerably higher, standing at \$3,712,443, of which over 92 p.c. was received from silver fox pelts.

The fur-farming industry has risen to prominence only since 1920, but in spite of its rapid growth in the years prior to 1930 it has maintained its position very well during the depression and is now showing

signs of definite improvement.

Canada is regarded abroad as the best source of silver foxes for breeding and large numbers have been exported at good prices to the United States and Europe. The quality of the pelt does not appear to have suffered in captivity and there are many breeders who maintain that finer skins are derivable from farms than were ever secured from the open spaces.

CHAPTER X

THE MANUFACTURES OF CANADA

The present century has witnessed the chief forward movement in Canadian manufactures, mainly as the result of two great influences: firstly, the "boom" accompanying the opening up of the West, which greatly increased the demand for manufactured goods of all kinds and especially construction materials; and secondly, the War, which not only created enormous new demands but left a permanent imprint upon the variety and efficiency of Canadian plants. In 1910, when the first of these influences was but partly felt, the gross value of Canadian manufacturing production had risen to \$1,166,000,000, the capital invested to \$1,248,000,000, and the number of employees to 515,000; but by 1920, the gross value of Canadian manufactured products was no less than \$3,772,000,000, the capital invested \$3,372,000,000, and the number of employees 609,586. Hundreds of millions of capital had been attracted from outside (see p. 40) in achieving this striking result. After 1920 the figures declined, but subsequent gains brought them back, for 1929, to even higher levels than 1920, as the table on page 90 shows. As expected, the 1932 figures when compared with those for 1929 indicate a reduced gross production of 47.2 p.c., although the net production, due to the proportionately greater reduction in the cost of materials, was down only 41.4 p.c.



Acid Plant Utilizing Salvaged Smelter Gases, Copper Cliff, Ont.

Courtesy, Canadian Government Motion Picture Bureau.

Historical Summary of Statistics of Manufactures, 1870-1932

Year	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ³	Gross Value of Products
	No.	\$	No.	\$	\$	\$	8
1870. 1880. 1890. 1900 1 1910 1 1920 2 1930 2 1931 2 1932 2	41, 259 49, 722 75, 964 14, 650 19, 218 23, 351 23, 597 24, 020 24, 501 24, 544	$\begin{array}{c} 77,964,020 \\ 165,302,623 \\ 353,213,000 \\ 446,916,487 \\ 1,247,583,609 \\ 3,371,940,653 \\ 5,083,014,754 \\ 5,203,316,760 \\ 4,961,312,408 \\ 4,741,255,610 \end{array}$	187, 942 254, 935 369, 595 339, 173 515, 203 609, 586 694, 434 644, 439 557, 426 495, 398	59,429,002 100,415,350 113,249,350 241,008,416 732,120,585 813,049,842 736,092,766 624,545,561	179,918,593 250,759,292 266,527,858 601,509,018 2,085,271,649 2,032,020,975 1,666,983,902 1,223,880,011	129,757,475 219,088,594 214,525,517	309,676,068 469,847,886 481,053,375 1,165,975,639 3,772,250,057 4,029,371,340 3,428,970,628 2,698,461,862

¹ Includes all establishments employing five hands or over.

² Includes all establishments irrespective of the number of employees but excludes Construction, and Custom and Repair Work.

³ Gross value less cost of materials.

According to the latest census available, Canada possessed, in 1932, 24,544 manufacturing establishments with capital investment in lands, buildings, equipment, etc., amounting to \$4,741,255,610, employing 495,398 persons with salaries and wages amounting to \$505,883,323. They consumed \$955,968,683 worth of raw materials (not including fuel) and produced goods to the value of \$2,126,194,555. Although the downward trend in manufacturing production was checked in 1933, it is estimated that the value of production for that year will be about the same as that of 1932 as the gains made during the last half of the year were counterbalanced by the continuing declines of the first half.

Census of Manufactures, by Provinces and Industrial Groups, 1932

			~ ,		ilu muus	trial Gro	ups, 1932
Province or Group	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
Province	No.	\$	No.	\$	\$	\$	\$
P.E. Island N.S. N.B. Quebec Ontario Manitoba Saskatchewan. Alberta B.C. and Yukon	274 1,404 841 7,851 9,844 970 774 943 1,643	125,639,707 117,454,168 1,632,955,979 2,144,008,857 190,545,652 63,294,823 100,609,788	13,142 11,987	11,199,861	22,920,430 20,776,650 292,203,152 459,910,999 45,591,099 18,214,555 28,442,192	27,430,624 26,695,743 376,213,941 568,486,655 50,464,930 17,886,961 26,851,640	50,351,054 47,472,393 668,417,093 1,028,397,654 96,056,029 36,101,516 55,293,832
Canada	24,544	4,741,255,610	495,398	505,883,323	955,968,683	1,170,225,872	2,126,194,555
Industrial Group							
Vegetable	5,244 4,413 2,002 7,844 1,233 452 1,182 662 479	516,356,149 193,015,462 321,593,062 954,639,232 608,619,518 272,045,441 312,569,679 160,929,954 65,600,126	72,390 49,953 102,116 107,834 74,214 26,704 20,342 15,295 11,155	70,047,452 45,979,793 82,817,944 112,372,202 82,339,437 32,755,103 24,479,677 20,008,108 11,822,441	225, 135, 488 167, 170, 394 129, 468, 738 142, 349, 790 102, 289, 749 67, 934, 940 74, 358, 159 35, 276, 531 11, 984, 894	211,600,763 95,623,235 144,942,998 227,251,810 123,542,436 84,176,377 73,407,459 60,002,845 21,257,716	436,736,251 262,793,629 274,411,736 369,601,600 225,832,185 152,111,317 147,765,618 95,279,376 33,242,610
stations	1,033	1,335,886,987	15,395	23, 261, 166	-	128, 420, 233	128, 420, 233

¹ Gross value less cost of materials.

The great development in Canadian manufactures since the War has been stimulated by the fact that foreign firms have realized the splendid field which Canada furnishes for the establishment of branch factories and have invested large amounts of capital in varied enterprises which have provided employment for Canadian labour.

The classification of industries followed in the latter part of the table on page 90 indicates the important positions of the Animal, and Wood and Paper Products groups in Canadian industry. Space does not permit of the treatment of all groups, but these and Iron and Its Products are

selected for treatment this year.

Animal Products.—Production in this group is determined, in large measure, by the demand at home and abroad for Canadian butter, cheese, canned fish, fresh or frozen meats, bacon and hams, condensed and evaporated milk, etc.

The leading industry of the group is that of slaughtering and meat packing, with a value of production in 1932 of \$91,246,523. Next comes butter and cheese, with a value of \$78,712,905. These two industries pro-

duced about 62 p.c. of the production of the entire group.

The butter and cheese industry, which manufactures products of farm-animal origin, has been for many years of leading importance in Canada. Originating in the agricultural districts of the Maritime Provinces, the Eastern Townships of Quebec, and the southern counties of Ontario, it is now developing rapidly in the Prairie Provinces and in the more northern settlements of Quebec and Ontario. For an industry so large in the aggregate, it is unique in having shown very little tendency toward consolidation in large units, the gross production of \$78,712,905 (which compares with \$95,728,398 for the previous year) coming from no fewer than 2,708 plants, mostly small and scattered at convenient points throughout the farming communities.

The leather industries have long been established on a considerable scale, mainly, of course, because the large number of cattle raised and slaughtered provides a ready supply of hides. There are large tanneries in the eastern provinces, and no fewer than 191 boot and shoe factories were in operation in 1932, chiefly in Quebec and Ontario, representing a total capital investment of over \$22,000,000 with an annual output of over \$32,000,000 (compared with \$37,000,000 for the previous year) and employing 13,728 men and women. The canning and preserving of fish also calls for reference. Concentrated naturally upon the Pacific and Atlantic coasts, 629 establishments were engaged in 1932 in canning, curing and packing of various kinds of fish that were valued at nearly \$17,000,000 (compared with \$19,000,000 for 1931).

Those industries of this group which manufacture food products have shown decreased production during the years since 1926 and the group as a whole has not kept pace with the other groups in the volume of production. This has been more especially true of the slaughtering and meat-packing, butter and cheese and fish-curing and -packing industries. On the other hand, the industries where the manufacturing process plays a greater part, such as those making wearing apparel and boots and shoes, have recorded substantial increases since 1926, although along with all industries they have, generally speaking, felt the effects of the depression.

Wood and Paper Products.—The forests of Canada have always been an important factor in the building up of manufacturing industries. Since early pioneering times the sawmill has been one of the first stages in the evolution of the pioneering community to the industrial centre. There is to-day practically no form of industrial activity in which wood is not used, directly as a raw material or indirectly in the form of paper. The primary operations in the woods furnish work for at least 200,000 individuals, largely during a part of the year when employment in manufacturing industries is at its minimum and have a valuable steadying effect on general labour conditions throughout the year.

The manufacture of lumber, which depends to a large extent on building and construction operations and the export market has shown wide fluctuations. The peak, reached in 1911 with a total cut of 4,918,000 M ft., b.m., has never been equalled. It was followed by a general decline to the 2,869,000 M ft. reported for 1921. Production subsequently increased with fair regularity to a second peak, in 1929, of 4,742,000 M ft. but has since decreased to the 1,810,000 M ft. reported in 1932.

Those manufacturing industries which draw their principal raw materials from the sawmills reached their maximum production in 1929 with a gross value of \$146,950,000 which had declined to \$60,234,000 in 1932.

The pulp and paper industry is a comparatively recent development in Canadian industry. In 1881 there were only 36 paper and 5 pulp mills in operation in Canada. By 1923 the industry had displaced flour milling as Canada's most important manufacturing industry and in spite of recent vicissitudes has held that position ever since. The peak of production was reached in 1929 when 4,021,000 tons of wood pulp and 3,197,000 tons of paper were produced. In that year there were 108 pulp and paper mills in operation, consuming 5,278,000 cords of pulpwood and using hydroelectric power valued at more than \$13,000,000. During 1926, Canada, for the first time, produced more newsprint paper than the United States and became the world's chief producer and exporter of that commodity. She has maintained that position ever since in spite of decreases in production. During 1932 this industry produced 2,663,000 tons of pulp and 2,291,000 tons of paper. Of this paper, 1,919,000 tons was newsprint, which exceeded the tonnage produced in the United States by over 104 p.c.,

The manufacturing industries which draw their principal raw materials from the pulp and paper mills reached their maximum production of \$187,882,000 in 1929. The value in 1932 for these industries was \$135,212,000.

Iron and Its Products.—The manufacture of iron and steel and their products is also one of Canada's basic industries. Iron ore is not now produced in Canada, as the known deposits, though extensive, are not of sufficiently high grade to permit economic recovery under present conditions. Yet there has been built up a primary steel industry of considerable importance, and the secondary or fabricating industries have been expanding steadily to meet the country's increasing requirements.

There are now four concerns which make pig iron in Canada, one being in Nova Scotia and three in Ontario. The former uses Nova Scotia coal and iron ore from the great Wabana deposits, which it controls, on Bell island, Newfoundland, while the Ontario works are dependent on foreign ore and coal, which are brought from the United States. These companies have blast furnaces with a rated capacity of 1,500,000 long tons of pig iron per annum, but the highest tonnage yet attained was 1,080,160 long tons in 1929. Open hearth steel furnaces and rolling-mills are also operated by these companies, which produce steel ingots. blooms and

billets, bars, rods, rails, structural shapes, plates, sheets, rail fastenings, etc. In 1932, the output of primary iron and steel was valued at \$16,197,526.

Among the secondary industries, the production and maintenance of railway cars, locomotives and parts is of first importance. In 1932 there were 38 such plants, and 15,612 workers were employed. The value of products was \$32,465,192, which was \$72 millions lower than in 1930.



The End of the Final Assembly Line in a Canadian Automobile Plant.

Milling the Ends of Ten Eight-Cylinder Blocks in One Operation.

Courtesy, Canadian Government Motion Picture Bureau.

Automobile manufacturing is one of Canada's largest industries with 8,810 employees, products valued at \$43,801,389 and a capital investment of \$49,641,777 in 1932. This was not a representative year and the figures are hardly indicative of the real importance of the industry. In 1929, for instance, 16,435 people were employed in 17 plants then in operation, and cars and parts worth \$177,315,593 were produced.

The export trade in automobiles and parts reached its peak in 1929, when cars and parts worth \$47,005,671 were shipped to other countries.

For 1932 this market had declined to \$7,091,994.

There are also numerous works for the manufacture of machinery, agricultural implements, sheet metal products, foundry products and similar articles of iron and steel, and the variety of products made in these establishments is increasing yearly.

Leading Individual Industries, 1932.—Compared with 1931, there have been some marked changes in the order of the ten leading industries when arranged according to the gross value of production; there have also been appreciable decreases in the values of production in every case. In 1932 pulp and paper was again in the lead, followed by central electric stations, slaughtering and meat-packing, flour and feed mills, butter and cheese, etc. Some of the more important changes in the ranking of the leading industries were as follows: automobiles advanced from fourteenth to eleventh place, bread and other bakery products from twelfth to ninth place and printing and publishing from eleventh to eighth place, while sawmills dropped from thirteenth to seventeenth place, railway rolling stock from tenth to twenty-first place and non-ferrous metal smelting and refining from fourth to sixth place.

Principal Statistics of Twenty-Five Leading Industries, 1932

Industry	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products ¹
Pulp and paper Central electric stations Slaughtering and meat-pack-	No. 98 1,033	597,550,013 1,335,886,987	No. 24,561 15,395			135,648,729 128,420,233
ing Flour and feed mills. Butter and cheese. Non-ferrous metal smelting. Petroleum products. Printing and publishing.	141 1,290 2,708 13 31 762	58, 283, 212 50, 924, 744 149, 708, 860 69, 475, 860		5,576,395 11,219,366 8,778,970 5,980,681	63,177,656 51,768,536 37,719,947 52,237,387	84,748,800 78,712,905 76,442,076 71,697,757
Bread and other bakery products	2,861	48,961,175	16,856	15,909,805	23,431,275	53,450,352
supplies. Automobiles Hosiery and knitted goods. Clothing, factory women's. Sugar refineries. Rubber goods, including	169 25 169 461 8	49,641,777 52,604,950 18,147,033	14,305 8,810 17,655 14,276 2,140	11,435,741 13,474,974 12,117,879	20,414,844 28,278,809 19,349,634 23,983,585 25,716,922	
footwear. Cotton yarn and cloth. Sawmills. Breweries. Biscuits, confectionery.	47 35 3,593 75	72,504,504 80,796,425 57,398,055	10,325 15,092 18,285 4,353	11,684,979 10,761,090 5,932,225	11,906,696 19,158,046 23,405,576 10,210,482	38,555,370 38,506,647
chocolate Tobacco, cigars and cigarettes Railway rolling stock	262 116 38	42,351,650 87,289,160	10,526 8,236 15,612	7,127,070 17,460,142	18,787,261 14,101,765	37,361,781 32,465,192
Boots and shoes. Printing and bookbinding. Fruit and vegetable preparations.	191 1,055 258	22,024,801 39,451,964 40,586,892	13,728 11,679 5,954		15,753,021 10,967,767 15,600,602	32,242,416 31,270,486 30,034,537
Coke and gas products Totals, Twenty-Five Leading Industries	15,481	93,534,495 	3,639 283,392	4,897,746	12,241,698	29,812,650 1,385,680,634
Grand Totals, All Industries Percentages of Twenty-five	24,544	4,741,255,610	495,398	505,883,323		2,126,194,555
Leading Industries to All Industries	63 · 07	69 · 87	57 · 20	58.31	66-90	65 · 17

¹ Net value of production can be obtained by deducting cost of materials from these figures.

On the basis of net value, or value added by manufacture, the order of importance of the industries in 1932 was quite different from that based on gross value. The central electric stations industry was foremost in this respect and was followed, in the order named, by pulp and paper, printing and publishing, non-ferrous metal smelting and refining, electrical apparatus, bread and other bakery products, rubber goods, breweries, butter and cheese, slaughtering and meat-packing, etc. In salaries and wages paid, the pulp and paper industry ranked first and was followed, in the order given, by printing and publishing, central electric stations, railway rolling stock, electrical apparatus, bread and other bakery products, printing and bookbinding, hosiery and knitted goods, women's factory clothing, castings and forgings, etc.

The leading centres of manufacture are Toronto proper and Montreal proper with totals, in 1932, of \$323,000,000 and \$310,000,000 respectively. Greater Montreal, however, is still ahead of Greater Toronto in the gross value of its production. After these two cities come Hamilton with \$83,000,000, Winnipeg with \$56,000,000, and Vancouver with \$54,000,000. There were seven other places having manufactures with a gross value of production of over \$20,000,000 in 1932.

Leading Manufacturing Cities of Canada, 1932

City	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	\$	No.	\$	\$	\$
Toronto	8 157 221 45 81 51 61 13 97	417. 748, 359 363, 851, 307 176, 981, 408 70, 201, 107 78, 670, 170 36, 166, 97 31, 260, 111 44, 432, 575 22, 684, 769 43, 935, 987 20, 721, 525 21, 441, 928 61, 106, 484 29, 770, 104 19, 815, 419 42, 549, 033 9, 513, 146 17, 209, 712 16, 394, 270	78, 633, 21, 733, 16, 119, 11, 851, 8, 149, 7, 128, 8, 202, 2, 513, 1, 365, 4, 090, 6, 129, 3, 925, 4, 242, 4, 415, 3, 205, 4, 098, 4, 859, 1, 413	88, 204, 053 80, 734, 197 23, 378, 011 17, 426, 358 12, 506, 703 8, 395, 717 6, 483, 196 7, 394, 929 1, 859, 247 4, 527, 506 7, 048, 840 4, 374, 646 3, 959, 158 3, 927, 757 3, 714, 556 5, 847, 408 4, 475, 986 3, 882, 921	147, 910, 861 147, 093, 283 34, 372, 679 26, 989, 727 26, 970, 636 11, 277, 143 10, 043, 518 10, 993, 084 10, 815, 330 11, 923, 221 7, 276, 871 11, 231, 665 8, 316, 509 6, 883, 251 10, 685, 564 8, 844, 754 6, 632, 608 9, 914, 712 7, 894, 070 8, 128, 842	17,787,54 17,478,79 16,360,22

Trade in Manufactures.—Canada is the second most important manufacturing country in the British Empire. The capacity of Canadian industries and the variety of products marketed are such that many classes of goods, formerly imported, are now being manufactured in the Dominion in sufficient volume not only to meet the requirements of the home market but also for export. To-day Canada sends manufactured goods to almost every country in the world. For the fiscal year ended Mar. 31, 1933, these exports reached \$269,000,000 in value, whereas in 1900 they were below the \$100,000,000 mark and fourteen years later were but \$159,000,000.

Among the industrial groups, the vegetable products group occupies an important position in trade. Wheat flour, rubber tires, canvas shoes with rubber soles, prepared cereal foods, sugar and alcoholic beverages are some of the more important articles which enter into the export trade of Canada.

The exports of socks and stockings have been steadily increasing in both quantity and value, and reached a new high level in 1932 when 138,735 dozen pairs, valued at \$1,016,354 were exported. British South Africa and New Zealand are our best customers, importing, in 1932, 50,499 dozen pairs, valued at \$394,844 and 41,406 dozen pairs, valued at \$263,686 respectively.



Cotton Mill near Fredericton, N.B.—This is one of the largest cotton mills in the Maritime Provinces. Courtesy, Canadian Government Motion Picture Bureau.

Conditions During the Years 1929-34.—Perhaps the best all-round barometer of conditions is afforded by the indexes of employment maintained from month to month in the Dominion Bureau of Statistics, and based on returns received from establishments having 15 hands and over. These reporting establishments normally employ about 600,000 workpeople.

The severity of the depression which set in toward the end of 1929 is strikingly illustrated by the monthly employment indexes shown below. From a high of 121.6 attained in August, 1929, employment kept steadily decreasing until January, 1933, when the index stood at 74.4. In February of the same year, however, employment took an upward swing and with minor interruptions in December, 1933, and January, 1934, showed steady and substantial improvement until October, 1934, when the index stood at 94.4. The index for the first eleven months of 1934 averaged 90.2, or nearly 12 p.c. higher than in the same period of 1933, while there was also a gain of over 6 p.c. as compared with the months Jan. 1 to Nov. 1 in 1932. Steady improvement in the year was indicated by the cooperating manufacturers from Jan. 1 to Oct. 1, the longest period of expansion

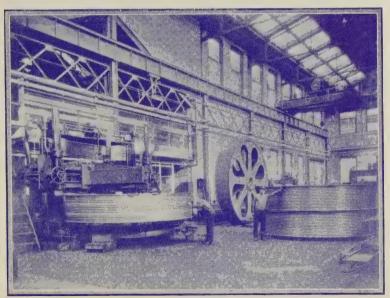
experienced since the record was established 14 years ago, and the index of employment at its 1934 peak on Oct. 1, was at the highest point attained in 37 months. There was a seasonal slowing-up at the beginning of November and December but this was quite normal for the time of year.

Indexes of Employment in Manufactures

Month	1929	1930	1931	1932	1933	1934	Month	1929	1930	1931	1932	1933	1934
Jan. 1 Feb. 1 Mar. 1 April 1 May 1 June 1	107·8 112·8 115·7 116·5 119·8 121·2	110 · 2 110 · 9 111 · 3 112 · 4	96·1 97·6 99·7 100·7	85 · 9 87 · 0 87 · 3 85 · 8	75·0 75·8 76·0 76·8	84·2 86·5 88·1 90·2	July 1 Aug. 1 Sept. 1 Oct. 1 Nov. 1 Dec. 1	$119 \cdot 8$ $120 \cdot 2$ $117 \cdot 2$	110 · 2 108 · 2 107 · 8 104 · 6	94·7 94·7 91·8 88·8	82 · 6 83 · 1 84 · 1 81 · 7		94·2 94·3 94·4 92·8

An analysis of the various industries classed under manufacturing shows the improvement to have been general and not limited to certain branches of industry. Many of the groups were more active in each single month than in the same period of 1933, while in practically all divisions the index numbers of employment, on the average, were higher than in the preceding year. The gains in the food, lumber, pulp and paper, rubber, textile, chemical, clay, glass and stone, electrical apparatus, iron and steel, and other metal, non-metallic mineral and miscellaneous manufactured products groups were especially important, resulting in the re-employment of large numbers of persons during 1934. In many industries,

the situation was even better, on the whole, than in 1932, the improvement in this comparison being especially pronounced as the year advanced.



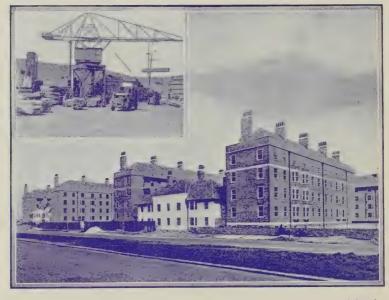
Sheave Wheels being Turned on a Boring Mill in a Canadian Engineering Plant.

Courtesy, Canadian Government Motion Picture Bureau.

CHAPTER XI

CONSTRUCTION

The construction industry, as here understood, embraces construction in transportation and public utilities as well as the more widespread municipal and private building operations with their almost complete dependence on local demand and with their progress more sensitive to the state of the money market and the cyclical fluctuations of general business conditions.



Construction.—The use of Canadian lumber is being greatly extended in the United Kingdom. The block of buildings shown is part of the Municipal Housing Scheme of the city of Liverpool. Canadian lumber was used throughout. Inset: Canadian lumber being loaded for export on the Pacific coast.

Courtesy, Publicity Branch, Department of Trade and Commerce and Department of the Interior.

Transportation and Public Utilities.—Both steam and electric railways further reduced their expenditures on maintenance for 1933. For steam railways the total maintenance of way and structures and equipment amounted to \$96,000,000 as against \$100,000,000 in 1932 and \$131,000,000 in 1931. Expenditures on new lines amounted to only \$200,000, whereas in 1932 over \$3,000,000 was expended. Electric railways expended \$5,000,000 on maintenance during 1933, or about 15 p.c. less than in 1932, and \$200,000 on additions and betterments.

With the increased use of motor vehicles the mileage of surfaced highways has grown at a rapid rate and expenditures on highway construction and maintenance by provinces and local municipalities, with subsidies from the Dominion Government, have formed a very important item in national expenditures. The good-roads program in 1920 was also designed to aid unemployment and again in 1930-33 large expenditures were made, primarily for this reason. During 1929-32 construction expenditures averaged \$60,000,000 per annum and maintenance expenditures averaged \$22,000,000, or a total average of \$82,000,000. In 1933, construction expenses were curtailed, drastic cuts being made in some of the provinces, and the total was reduced to \$24,000,000. Maintenance cannot economically be so reduced and for the year it amounted to \$16,600,000, or a total of \$40,600,000, which was less than half of the annual highway expenditures for the previous four years.

Building Operations.—The foregoing transportation and public utility expenditures have helped to make a better showing for the industry as a whole, and still more have road work and other Government programs which tend to increase as other construction work decreases. The greater part of the expenditures on construction are for building operations proper, i.e., for houses, factories, business premises, etc. In view of the widespread nature of the undertakings, comprehensive figures are not easy to obtain, but the totals of construction contracts awarded, as compiled by MacLean Building Reports, Ltd., for the latest four complete years, are as follows: 1930, \$456,999,600; 1931, \$315,482,000; 1932, \$132,872,400; 1933, \$97,289,800. The table shown below shows the values of such contracts for the first eleven months of the latest two years, by types of construction.

Construction Contracts Awarded in Canada, Eleven Months, 1933 and 1934

(MacLean Building Reports, Ltd.)

Type of Construction		1933	1934	
Type of Constituenton	No.	Value	No.	Value
		\$		\$
Apartments Residences Totals, Residential Churches Public Garages Hospitals Hotels and Clubs	116 8,005 8,121 148 395 49 152	896,100 21,895,400 22,791,500 2,024,700 1,798,800 1,838,600 1,223,300	165 9,507 9,672 197 518 67 353	1,504,400 27,622,200 29,126,600 1,788,400 2,149,500 4,956,900 1,615,400
Office Buildings. Publie Buildings. Schools. Stores. Theatres. Warehouses	164 285 187 935 49 263	1,007,800 2,601,000 5,360,600 3,411,300 442,400 5,607,000	243 391 359 1,267 56 379	3,925,800 5,438,600 6,106,900 3,995,500 575,400 4,579,900
Totals, Business Totals, Industrial Bridges Dams and Wharves Sewers and Watermains Roads and Streets General Engineering Totals, Engineering	2,627 424 161 56 315 599 314 1,445	25, 315, 500 8, 749, 000 6, 247, 000 561, 500 4, 512, 900 13, 690, 800 7, 214, 000 32, 226, 200	\$,830 593 165 105 296 812 452 1,830	\$5,132,300 7,880,600 5,322,100 2,414,500 5,703,900 23,892,300 12,277,000 47,609,800
Grand Totals	12,617	89,082,200	15,925	119,749,300

The Dominion Bureau of Statistics compiles an estimate of the value of construction in 61 cities of Canada as indicated by their building permits. In 1933 the value of buildings thus authorized was \$21,776,496, as compared with \$42,319,397 in 1932 and \$112,222,845 in 1931. For the first eleven months of 1934 the unrevised total is \$24,326,224. The follow-

ing table shows the value of the building authorized for the first eleven months of 1934 as compared with those in the same period of 1933 by the 61 cities whose returns are tabulated monthly.



A Modern Stripping Shovel at Work.

Courtesy, Department of Mines, Ottawa.

Building Permits, by Cities, Eleven Months, 1933 and 1934

City	1933	19341	City	1933	19341
	\$	\$		\$	\$
Charlottetown, P.E.I.	189,400	42,500	Sarnia, Ont	61,332	119,828
Halifax, N.S.	589,969	708,617	Sault Ste. Marie, Ont	89,734	256,408
New Glasgow, N.S	21,420	9,852	Toronto, Ont	3,595,284	5,986,145
Sydney, N.S	30,925	74,992	York and East York	626,706	807,367
Fredericton, N.B	30, 115	42,775	Townships, Ont	46,236	106,476
Moncton, N.B	117,494	511,398 237,920	Welland, Ont	58,945	166,702
Saint John, N.B Montreal-Maison-	164.646	257,920	East Windsor, Ont	1.807	142,590
neuve, Que	5, 101, 647	3,928,290	Riverside, Ont	1,000	3,100
Quebec	468,018	409,939	Sandwich, Ont	550	36,600
Shawinigan Falls, Que.	52,950	129,285	Walkerville, Ont	3,000	17,000
Sherbrooke, Que	181,400	122,510	Woodstock, Ont	69,539	60,750
Three Rivers, Que	27,988	465,090	Brandon, Man	44,346	41.308
Westmount, Que	334,841	685,233	St. Boniface, Man	62,310	54,140 693,300
Belleville, Ont	34,075	76,855	Winnipeg, Man	723,400 44,845	350,337
Brantford, Ont	139,856	240,816 43,800	Moose Jaw, Sask Regina, Sask	378,217	283,921
Chatham, Ont	75,795 213,300	615,530	Saskatoon, Sask	106, 135	75,955
Fort William, Ont	101, 136	134,946	Calgary, Alta	441.865	496,288
Guelph, Ont	83,015	105,723	Edmonton, Alta	424,030	471,023
Hamilton, Ont	478,700	681,370	Lethbridge, Alta	53,541	64,503
Kingston, Ont	178,717	138,198	Medicine Hat Alta	14,325	24,420
Kitchener, Ont	140,009	230,309	Kamloops, B.C	50,000	34,081
London, Ont	448,760	587,480	Nanaimo, B.C	25,856	45,544
Niagara Falls, Ont	40,480	125,546	New Westminster,	114,080	75,598
Oshawa, Ont	49,035	48,970	B.C	29, 117	66,520
Ottawa, Ont	914,615	1,257,325 23,085	Prince Rupert, B.C Vancouver, B.C	1,542,966	1.333.737
Owen Sound, Ont	38,875 133,400	145,030	North Vancouver,	2,012,000	2,000,101
Peterborough, Ont Port Arthur, Ont		94.617	B.C	26,721	14,360
Stratford, Ont		52,550	Victoria, B.C	278,646	244,303
St. Catharines, Ont		257,061			
St. Thomas, Ont		26,311	Totals—61 cities	19,653,928	24,326,224

¹ Unrevised figures.

These 61 cities had, in 1931, about 36 p.c. of the population of Canada; in 1933, the latest complete year, their building permits had a value equal to about 22 p.c. of the total contracts awarded according to MacLean Building Reports, Ltd. Official summary figures, since 1923, of building permits and of the closely related subjects of prices of building materials, of employment and of wages in the building industry, are given on the next page.

ROAD AND HIGHWAY CONSTRUCTION



Courtesy, Canadian Government Motion Picture Bureau.

The index numbers of wages and prices of materials show the fluctuations in building costs over the period. During 1934, the wages index declined by 6.8 p.c. as compared with 1933, and there was an increase of 6.1 p.c. in the index of wholesale costs of building material. The change in the wages index in building trades has probably been much more than is indicated by these figures. Index numbers of wages in these trades are based chiefly on union rates in cities, and the types of construction which have been stimulated have been those where the higher paid trades have not been in great demand. The reduction in common labour costs has been proportionately greater than in the trades.

Building Permits, 1923-34

Year	Value of Building Permits Issued	Index Numbers of Value of Permits Issued (1926=100)	Average Index Numbers of Wholesale Prices of Building Materials (1926=100)	Index Numbers of Wages in the Building Trades (1913=100)	Index Numbers of Employment as Reported by Employers in the Construction Industries (aver- age, calendar year 1926=100)
1923	\$ 133,521,621 126,583,148 125,029,367 156,386,607 184,613,742 219,105,715 234,944,549 166,379,325 112,222,845	85·4 80·9 79·9 100·0 118·0 140·1 150·2 106·4 71·8	111 · 9 106 · 6 102 · 9 100 · 0 96 · 1 97 · 4 99 · 0 90 · 8 81 · 9	166·4 169·1 170·4 172·1 179·3 185·6 197·5 203·2	80·9 80·3 84·9 100·0 109·0 118·8 129·7 129·8 131·4
1931	42,319,397 21,776,496 24,326,224	26·7 13·9 16·8	77·2 78·3 83·1	$ \begin{array}{r} 193 \cdot 7 \\ 178 \cdot 2 \\ 158 \cdot 0 \\ 147 \cdot 2^{2} \end{array} $	86·0 74·6 109·3

The 1934 figures are for the eleven months to November 30, those for the other years are complete. 2 Preliminary figure.



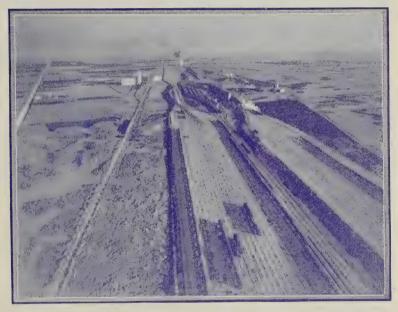
Gypsum Tile Ready for Shipping.—Modern types of insulated construction have created a wide demand for this and similar products.

Courtesy, Department of the Interior.

CHAPTER XII

TRANSPORTATION AND COMMUNICATIONS

Railways.—The distance across Canada from the Atlantic to the Pacific oceans is approximately 3,500 miles and three transcontinental railways stretch from coast to coast. These, with numerous branch lines, give Canada a railway mileage per capita second only to Australia among the nations of the world.



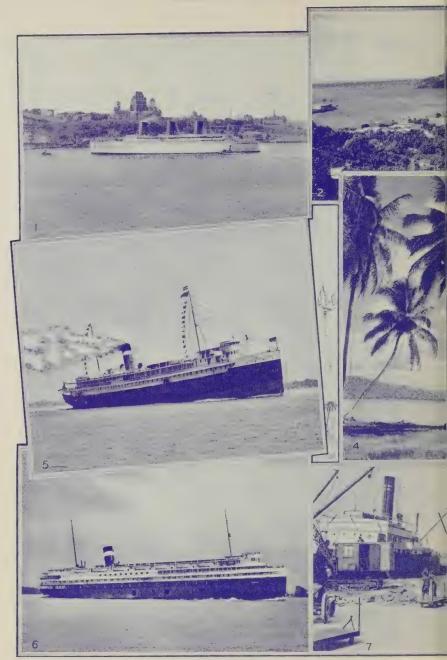
Canadian Pacific Railway Gravity Classification Yard, Winnipeg.—Winnipeg is the transportation hub of the Prairie grain district and is one of the largest railway centres on this continent.

Courtesy, Royal Canadian Air Force.

In 1922 the Government amalgamated the Intercolonial, Transcontinental, and other roads with the Canadian Northern, the Grand Trunk and the Grand Trunk Pacific, which it had been obliged to take over, due to failure under private operation, and placed the whole under one Board. In 1933 this great system controlled 23,750 miles of railway, being the largest single system in North America. Side by side is the Canadian Pacific with its 17,018 miles of road (exclusive of 70 miles in Canada and 5,156 miles in the United States which it controls) and its subsidiary steamship lines on the Atlantic and the Pacific. The Canadian Pacific, operating in a northern latitude, forms, with its auxiliary steamship services, a comparatively short way from Europe to the Far East.

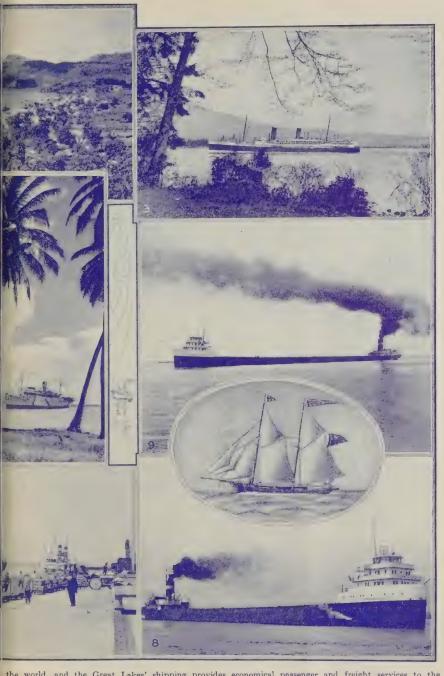
Canada has elaborate machinery for the government control of transportation in the Board of Railway Commissioners, first organized in 1904,

OCEAN AND LAKE SHIPPING OF



The merchantmen of the Canadian mercantile marine carry the Canadian flag into all important ports heart of the continent. Illustrations (1) show the great C.P.R. liner, The Empress of Britain liner, B.W.I. trade, in the bay; (3) The Aorangi, C.P.R. Canadian-Australasian Line, at Vancouver, Great Lakes. (7) Unloading sugar from a lake freighter at Toronto Harbour; (8) and (9) Typica ft. long, 70.2 ft. wide and 25.4 ft. deep. Her gross tonnage is 10,480. She was one of the first ship bushels of wheat and the canal was just able to accommodate her huge bulk. Inset is a view of 6,000 bushels.

TE CANADIAN MERCHANT SERVICE



the world, and the Great Lakes' shipping provides economical passenger and freight services to the schored off Quebec city; (2) A picture of Kingstown, St. Vincent, showing the Lady Hawkins, a C.N.S.S. 2; (4) Another of the C.N.S.S. "Lady" ships in B.W.I. waters; (5) and (6) Passenger ships on the odern grain carriers on the Great Lakes. The Lemoyne (9) largest freighter on the Lakes, is 621-1 pass through the New Welland Ship Canal in August, 1932. On that occasion she carried 530.000 Highland Beauty, one of Toronto's early carriers, which, in her day, carried a cargo of about

ilway, Canadian National Railways, Canadian Steamship Lines, and the Evening Telegram, Toronto.

which took over the functions of the Railway Committee of the Privy Council as a rate-controlling body. The Commission has jurisdiction also in matters relating to the location, construction and general operation of

railways.

Due to changing conditions and the increasing complexities in the transportation field, the Government in November, 1931, appointed a Royal Commission to inquire into the whole problem of transportation in Canada, particularly in relation to railways, and shipping communication facilities, having regard to present conditions and the probable future ship of The Rt. Hon. Lyman P. Duff, Judge of the Supreme Court of Canada.

The Commission's report was submitted on September 13, 1932, and its main findings were that, due to intense competition between the Canadian National and the Canadian Pacific railways, extravagant expenditures had been incurred and this duplication of services and effort, with increased competition from motor vehicles and decreased business due to the industrial depression, was proving disastrous to the railways. It recommended that:—

(1) The identity of the two railway systems should be maintained.

(2) The management of the Canadian National Railways should be emancipated from political interference and community pressure.

(3) Machinery should be provided for co-operation between the two systems for the elimination of duplicate services and facilities and the

avoidance of extravagance.

(4) A scale of economies should be effected to bring the burdens of the National system within reasonable dimensions and effectively

check extravagant and costly operation.

(5) Provision should be made for reasonable protection for the privately-owned undertaking against arbitrary action by the publicly-owned undertaking which might unfairly prejudice the interests of the

privately-owned undertaking.

To accomplish this the present Board of seventeen Directors of the Canadian National Railways should be replaced by three Trustees. The annual deficits of the Canadian National Railways should be paid by the Dominion Government and not by railway debentures. A continuous audit should be made by independent auditors. A statutory duty should be imposed upon the Trustees of the Canadian National Railways and upon the Board of Directors of the Canadian Pacific Railway to adopt as soon as possible such co-operative measures, plans and arrangements as shall, consistent with the proper handling of traffic, be best adapted to the removal of unnecessary or wasteful services and practices, to the avoidance of unwarranted duplication in services or facilities and to the joint use and operation of all such properties as may conveniently and without undue detriment to either party be so used. A tribunal of three members, the Chief of the Board of Railway Commissioners as Chairman, and a representative from each company, should be appointed to settle all disputes arising out of the co-operative arrangements requested by one or both of the railways and the decision of the majority of the tribunal, which must include the Chairman, should be binding on both railways, appeals being allowed only as to questions of law if a question of jurisdiction is involved. The Commission also recommended that an interprovincial conference be held to promulgate regulations for control of motor vehicle traffic and competition with railways. An Act embodying the recommendations in respect to the railways was passed by Parliament at the session of 1932-33.

Conditions in 1933 and 1934.—Canada's railway situation in 1933 may be summed up as follows: a population of 10,835,000 was served with a total of 42,364 miles of single track, and an additional 14,372 miles of second and third main track, industrial track, yard and sidings. The single track mileage in Ontario was 10,880, Saskatchewan had 8,438 miles, Alberta 5.680, Quebec 4,863, Manitoba 4,433 and British Columbia 4,041. The investments in Canadian railways was approximately \$3,365,464,000 and the gross earnings were \$270,278,276. The number of employees was 121,923 and the wages bill \$158,326,445. The Canadian railways carried 19,172,193 passengers and 57,364,025 tons of freight during the year and used about 25 p.c. of all the coal consumed in Canada. The railways are supplemented by efficient and adequate marine services, modern hotels in the chief cities from coast to coast, and no less than 42,083 miles of telegraphs which are under their control and operated directly by them. In common with the majority of industries, railway business declined more or less steadily from 1929 to 1933. The decline in freight traffic started in August, 1929, and by the end of the year the total ton miles was below the 1928 record by 14 p.c. It continued to decrease until the end of 1933, the total for that year being only 45 p.c. of that in 1928 and 83 p.c. of the 1932 total. January, 1934, showed an improvement and the total for the first nine months of 1934 was 11.2 p.c. greater than the 1933 traffic for the same months. The slump in passenger traffic also started in August, 1929, and continued in an unbroken series of declines to June, 1933, when an increase over June, 1932, traffic of 9 p.c., as measured in passenger miles, was recorded. This improvement continued quite consistently and for the first nine months of 1934 the traffic was 11.7 p.c. above the 1933 level.

The railway gross operating revenues and revenue car loadings, by months for 1932, 1933 and to November of 1934 are shown below.

Railway Statistics, by Months, 1932, 1933 and Jan. to Nov., 1934

Month	Railway Gross Operating Revenues			Total Revenue Car Loadings			
	1932	1933	1934	1932	1933	1934	
January February March April May June July August September October November December	\$000 22,120 22,294 25,027 23,851 23,400 24,813 22,970 23,100 28,988 28,190 24,276 21,902	\$000 17, 643 16, 788 20, 612 19, 530 21, 447 24, 310 23, 713 23, 730 25, 872 27, 239 24, 176 22, 749	\$000 21, 011 20, 627 24, 657 23, 395 26, 069 24, 436 25, 206 25, 206 27, 605	No. 0000 166 174 186 180 183 185 157 176 216 212 193 153	No. 000 134 133 157 138 161 176 163 186 202 222 201 158	No. 000 176 164 189 177 194 193 188 205 212 243 183	

Canals.—Canals were the earliest large transportation works in Canada. One of the first locks was a small one constructed by the Hudson's Bay Co. at Sault Ste. Marie which was destroyed by United States troops in 1814. Another was built at the Lachine Rapids in the St. Lawrence above Montreal in 1825, followed by the Welland Canal in 1829 to overcome the obstacle of Niagara falls. The Rideau Canal (military in

primary purpose), the St. Lawrence System and the Chambly Canal followed. To-day there are seven canal systems under the Dominion Government, namely: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to lake Huron, (6) from the Atlantic ocean to Bras d'Or lakes in Cape Breton, and (7) from Winnipeg to lake Winnipeg on the Red river. The total length of the waterways comprised in these systems is about 1,594 statute miles. Among projected canals the most important are those connected with the deepening of the St. Lawrence waterway.

The Welland Ship Canal.—With the opening of the Welland Ship Canal, the traffic through that waterway has increased from 6,100,000 tons for 1930, to 7,300,000 tons for 1931, to 8,500,000 tons in 1932, and to 9,194,130 in 1933. Although opened for traffic in April, 1930, the allowable draught was only 18 feet. This, however, was increased to 20 feet in April, 1932, and the official ceremony of opening the canal was held on August 6, 1932. The canal has 30 feet of water in the locks and 25 feet in the stretches between locks which may be readily increased to 30 feet by dredging. The time of transit for the 27.7 miles has been reduced from about 16 hours for the old canal to about 7½ hours and the number of locks reduced from 26 to 8. The locks are 80 feet wide and 859 feet between inner gates and the minimum width of the canal at the bottom is 200 feet. The lift of seven locks ranges from 43 feet 8 inches to 47 feet 10½ inches while that of the guard lock varies with the lake levels, the total difference in elevation of lake Erie and lake Ontario being 327 feet.

The St. Lawrence Waterway.—On July 18, 1932, Canada and the United States signed a Treaty providing, primarily, for the construction of canals and channels of 27 ft. depth so that ocean-going ships and heavy draught lake-freighters may carry cargoes up and down the Great Lakes-St. Lawrence waterway without breaking cargo. The dams necessary to the development of a navigation system in the international section of the St. Lawrence river would incidentally make available about 2,000,000

horse-power in this section of the river.

On July 11, 1932, the Dominion of Canada and the province of Ontario entered into an agreement relating to the construction of and payment for the necessary navigation and power works in the International

Rapids section of the St. Lawrence river.

The St. Lawrence Waterway Treaty must be approved by the United States Congress and the Parliament of Canada before going into effect. It has been approved by the United States House of Representatives but when last submitted to the United States Senate on March 14, 1934, failed to get the necessary two-thirds vote.

The Canada-Ontario Agreement is made subject to its approval by the Parliament of Canada and by the Legislature of the province of Ontario and, unless the Treaty is ratified within three years of the date of the agreement, the agreement can be cancelled by either party.

Electric Railways.—There were horse-car systems in Montreal and Toronto as early as 1861, but the first electric street railway (at St. Catharines, Ont.), dates only from 1887, followed by the Vancouver Street Railway in 1890, the Ottawa Electric Railway in 1891 and the electrification of the Montreal and Toronto systems in 1892. They are to-day, of course, common to practically all the cities of Canada. Great advances have also been made in the construction and use of suburban or interurban electric lines.

The automobile in recent years has seriously reduced the street and inter-urban electric railway traffic. In 1933 there were 41 systems operating 1,864 miles of track, one of which ceased operating in September, with a total investment of \$223,704,367. During the year 585,385,094 passengers were carried which was a decrease of 57,445,908 or 9 p.c. from the 1932 traffic. Gross revenues amounted to \$39,383,965 and the total pay roll amounted to \$18,692,236.

Express Companies.—Express service has been defined as "an expedited freight service on passenger trains". There are now four systems in operation with a capital somewhat over \$6,200,000, operating on 62,405 miles of steam and electric railways, boat lines and stage routes, and with gross receipts of \$15,226,014. Money orders and travellers' cheques

to the amount of \$43,579,612 were issued during 1933.

Roads and Highways.—Quite as fundamental as railways and waterways, especially in these days of extensive motor traffic, is a good road system and in this regard Canada has not been backward. A rapidly increasing tourist traffic which brought into the trade channels of the nation an estimated sum of around \$77,250,000 in 1933 has naturally stimulated first class road construction and Dominion and provincial engineers are devoting a great deal of thought and attention to the construction, maintenance and care of highways. (See also p. 98.) In 1933, Dominion, provincial, and municipal* expenditures on the improvement and maintenance of roads amounted to \$37,259,116, and another \$3,245,938 was spent on bridges and ferries. Construction expenditures were reduced by \$26,176,930 or 52 p.c., the cuts being specially drastic in Alberta and British Columbia.

Mileage Open for Traffic, Jan. 1, 1934, and Expenditures on Highways, 1933

Class of Highway	Mileage	Expenditure ¹	\$	
Unimproved earth	138,636	For construction	23,854,579	
Improved earth. Gravel	175,767 86,695 2,579 2,258 873 2,160 156	For maintenance	16,650,475	
Total	409,124	Total	40,505,054	

¹Including bridges and ferries.

Motor Vehicles.—The motor vehicle has been the raison d'être of the highway development and has increased in numbers at a very rapid rate. Both private and public passenger and freight motor vehicles have taken an increasing amount of passenger and freight traffic from the railways. Several of the smaller electric railways have had to cease operations entirely and others have abandoned certain lines where the traffic had declined until operation was unprofitable. The passenger traffic on the steam railways has shown no increase during the past ten years despite increases in population, and, in the present depression, has decreased at an alarming rate. In the past few years motor trucks have been carrying enormous quantities of freight, including lumber, hay, and similar commodities, which five years ago were considered safe from the encroachment of the motor truck.

^{*}This does not include municipal expenditures on other than provincially subsidized roads.

Registrations of motor vehicles have increased from 89,944 in 1915 to 728,005 in 1925 and to 1,082,957 in 1933. The latter figure gives an average of one motor vehicle to every 9.9 persons. The United States, New Zealand and Hawaii were the only countries with a greater number per capita, and the United States, France and the United Kingdom were the only countries having a greater number of motor vehicles registered. The greatest density in Canada was in Ontario, where there was one motor vehicle to every 6.8 persons. The western provinces averaged 8.1 to 11.2, the Maritime Provinces, 12.8 to 15.6 and Quebec had one motor vehicle to each 18.5 persons.

Number of Motor Vehicles Registered in Canada, by Provinces, Calendar Years 1920, 1925 and 1929-33

	,							-		
Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
1920										
1925 1929	2,955 6,116				344,112 $541,912$					728,005
1930	7,376	43,029	34,699	178,548	562,658	78,850	127, 193	101, 119	98,784	1,232,486
1931 1932	7,744 6,982		33,627 28,044							1,200,907 1,114,503
1933	6,940	40.443	26,842	160,012	520,353	68,740	84,734	86,110	88,554	1,082,957

Unfortunately, the increased use of motor vehicles has increased the number of fatalities due to motor vehicle accidents, not only in the cities and towns but also on the highways. In 1926, 606 persons were killed in motor vehicle accidents and in 1929 the number had more than doubled,



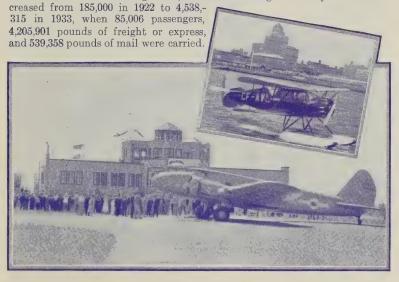
His Excellency the Governor General of Canada 'Cutting the Ribbon' at the Opening, on June 30, 1934, of Motor-Vehicle Traffic across the International Highway Bridge, which spans the St. Lawrence at Cornwall, Ont.

*Courtesy, The Mayor, Cornwall, Ont."

being 1,300. In 1930 there was a reduction to 1,290, in 1931 the number was 1,316, in 1932 it was reduced to 1,116 and in 1933 to 954.

The annual revenue to the provinces from registration of motor vehicles was \$20,576,392 in 1933, which was a decrease of \$549,879 from 1932. From gasolene taxes, the revenue amounted to \$26,467,765. Prince Edward Island raised the gasolene tax to 8 cents per gallon in April, 1933; Nova Scotia and New Brunswick did likewise in May and April, 1934. Manitoba and British Columbia collect 7 cents and the other provinces 6 cents per gallon.

Air Navigation.—A more recent invention is the aeroplane, already of economic importance in the transportation of passengers and supplies to new and remote mining areas, etc. The mileage flown by aircraft in-



Air Transportation.—Opening of the United Air Lines service from Seattle to Vancouver, July 1, 1934. The 'plane, a twin engined Boeing, is shown before the Administration Building of the Vancouver Municipal Airport. Inset: A Capreol and Austin seaplane in Toronto Harbour, from where a lively business is conducted into northern Ontario mining centres and summer resorts.

Courtesy, Canadian Aviation.

The aeroplane has proved a boon to Canada in developing her mining, forest, fishery, water-power and other resources. By shortening the immense distances which characterize the country and by facilitating the rapid exploration of northern areas, the heavier-than-air machine has found a permanent place in the administrative field. Aerial forest fire patrols are now carried on over large parts of almost every province; fishery patrols by aeroplane protect territorial waters and enforce fishing regulations; and by the use of aeroplanes equipped with special cameras, preliminary surveys, which would have taken years by the older methods are now rapidly made over large tracts of difficult and little known country. For details regarding the air mail service see p. 118.

Shipping.—The tonnage of sea-going and inland international vessels entered and cleared at Canadian ports showed an almost continuous increase up to 1914; and again during the fiscal years ended March 31, 1920 to 1929. The effects of the depression, however, are evident here also and, for 1934, the total tonnage of 82,625,372 was 12 p.c. less than the peak reached in 1929. The tonnage of coasting vessels has also grown, increasing from 10 million tons in 1876 (the first data compiled) to 84,000,000 tons in the fiscal year ended March 31, 1934.

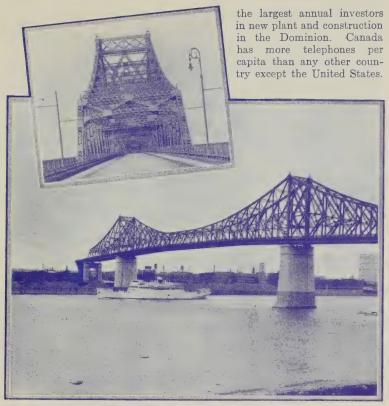
The vessels on the Canadian Shipping Registry in 1902 numbered 6,836 of 652,613 tons. From then there was a fairly steady increase in the number of vessels to 8,573 in 1919, followed by a decrease to 7,482 in 1921; since when there has been an increase to 8,921 representing 1,429,334

tons in 1933.

In the '70's shipbuilding was an important industry in Canada especially in the Maritime Provinces; the vessels built were mostly wooden sailing vessels. The invention of the iron steamboat greatly affected the industry in Canada, and there was a more or less steady decline in the number of vessels built and registered each year from 1885 to The War stimulated shipbuilding and there was a temporary activity assisted by the marine program of the Dominion Government. According to the figures published by the Department of Marine, the number of vessels built and registered in Canada in 1932 was 207 of 12,758 tons gross. Of this number five steam and 1 motor vessel were built of steel, the remainder being wooden vessels, powered as follows: sail 60; steam 7; motor 134. The value of production in the ship building industry in 1932, as collected by the Census of Industry, was \$6,422,-588, of which only \$887,478 was for vessels built or under construction, while \$4,295,663 was for repairs and custom work and \$1,239,447 for other products, including aeroplanes, boilers, engines, structural steel, etc.

Telegraphs.—Canada's first telegraph line was erected in 1846-47 between Toronto, Hamilton, St. Catharines and Niagara. In 1847 also the Montreal Telegraph Co. was organized and a line built from Quebec to Toronto. Other lines rapidly followed, to be brought eventually under the single control of the Great Northwestern Telegraph Co., which remained alone in the field until the building of the Canadian Pacific Railway and the Canadian Government telegraph lines. In 1933, there were 365,489 miles of telegraph wire in Canada, handling 10,135,653 messages, and the gross revenue was \$9,267,715. In addition, six transoceanic cables have termini in Canada, five on the Atlantic and one on the Pacific, and handle 5.5 million cablegrams annually. There are also 30 radio stations open for commercial traffic, mostly government owned but operated in part by the Marconi Wireless Telegraph Co., in addition to stations operated in connection with shipping or private commercial stations operated by canneries, logging companies, etc. The number of wireless messages handled is increasing and is now over 300,000 a year.

Telephones.—The telephone was invented in Canada, and the first talk was conducted by Alexander Graham Bell between Brantford and Paris, a distance of eight miles, on Aug. 10, 1876. Telephone development in Canada, however, dates only from 1880. In 1883 there were only 4,400 rental-earning telephones, 44 exchanges, and 40 agencies, with 600 miles of long-distance wire. In 1932 the number of telephones was over 1,260,000 with a 5,000,000 wire-mileage, the investment being over \$333,000,000. In the three Prairie Provinces there are well-organized government systems. Next to the railways the telephone companies are probably



The Jacques Cartier Bridge (the Montreal Harbour Bridge). Inset: A front view of the massive steel work taken from the Montreal end of the bridge. The total length of the bridge is 2½ miles and the main cantilever span is 1,097 feet from centre to centre of the main piers. There is a clear roadway 36 feet $10\frac{1}{2}$ inches wide between the curbs and the avenues for tramways or busses are 12 feet wide each; the width of the sidewalks is 5 feet each. The weight of steel used in the bridge and pavilion was 33,267 tons; 135,000 cubic yards of concrete were also poured in addition to the enormous quantities of filling used. To give the bridge one coat of paint 8,500 gallons are required.

Courtesy, Canadian National Railways and Associated Screen News Ltd.

National Radio.—During the year 1934 progress was made in the establishment of the national radio broadcasting system under the Canadian Radio Broadcasting Commission. One new broadcasting station CRCK, Quebec, 1,000 watt power, constructed, owned and operated by the Commission, was added (September, 1934), to the national networks, giving the Commission six stations under its own operation: CRCS, Chicoutimi; CRCK, Quebec; CRCM, Montreal; CRCO, Ottawa; CRCT, Toronto; CRCV, Vancouver. The Quebec, Ottawa, and Vancouver stations are owned by the Commission, the others leased. On thirteen other stations, commercially owned and operated, in principal cities from coast

BLATTNERPHONE SYSTEM OF RECORDING RE-TRANSMITTING BROADCASTS



ing with a new process for bringing British broadcast programs to Canadian listeners. It

proposes to record programs transmitted from Great Britain during the daytime when transmission is at its best and when live talent is being used by the British Broadcasting Corporation, and then to make use of these records in Canada for re-transmission over its networks during the evening hours when the Commission's wire lines are available and most Canadians are listening.

The blattnerphone system used by the Commission is a development of the Marconi Company. It enables programs up to any length to be mechanically recorded with very great fidelity. Mechanical recording hither-to has been on wax or similar substance except in the case of motion pictures where film is frequently used. In the case of the former, there is a definite limitation as to the length of the record that can be made, while with the latter the expense is very high. The blattnerphone method overcomes both these handicaps. The blattnerphone is a machine which makes a record of any length by magnetic process on a long thin steel tape. Each tape is about a mile and a half in length, and when the record has once been

to coast the Commission purchases broadcasting time for its programs, making in all nineteen stations which are obliged to carry its service daily. The service is supplied without payment to twenty-two other commercial stations which broadcast the Commission programs at their discretion in time not occupied by commercially sponsored programs. Thus the Commission has in all forty-one stations on its networks, nineteen of which are "basic stations" broadcasting its service regularly.

Transmission of the national service from coast to coast involves the use of 18,600 miles of communication wire in all, consisting of 6,200 miles of "transmission pairs" and a parallel control circuit. Sixty-four control and repeater points are employed in the operation of the network facilities.

The Commission program service is in direct charge of two chief program directors, responsible respectively for the territory east and west of the Ottawa river, and regional program executives stationed in British Columbia, the Prairie Provinces, Ontario, Quebec, and the Maritime Provinces. Programs are produced for the networks in most of the cities of Canada. By August, 1934, the organization work had reached the stage where, for the first time, it was possible for the Commission to hold a conference of its program executives at Ottawa headquarters. At this conference plans were made for improving the standard and quality of the service and the program schedule for the autumn and winter season 1934-35 was mapped out.

The broadcasting service was carried on throughout 1934 on pretty much the same scale as during the latter part of 1933. Until June, 1933, the Commission, not having facilities, did very little broadcasting, but from that month on it has carried on regular network broadcasting for about four and one half hours a day during the evenings and for additional hours on Saturday and Sunday afternoons during the autumn and winter seasons. During 1933, the Commission carried on its networks upwards of 2,500 programs, exclusive of news broadcasts, weather bulletins, and broadcasts of outstanding events and sports broadcasts. These programs may be roughly classified as follows: band concerts, 51; symphony concerts, 46; choral programs, 53; chamber music, 25; opera (English and French), 32; opera selections, 29; vocal and instrumental con-

made it can be used as often as required and apparently may be kept indefinitely without loss of strength. At the same time the tape may be cleared of the record by a simple process and used indefinitely for successive cleared of the record by a simple process and used indefinitely for successive programs. In this system the program is picked up by a microphone and amplifiers in the ordinary manner. The speech currents so obtained are then made to produce magnetic changes in the steel tape, which is passing uniformly between the poles of a pair of special electro-magnets. In reproducing the record at a later date, the tape is again caused to pass between a second pair of electro-magnets. The magnetic variation in the tape in turn produces in the magnets similar electrical currents to those which originally magnetized the tape. These currents are led through suitable amplifiers and on to the broadcast station or to the wire line network, as the case may be the case may be.

It will be interesting to note that the Commission is accumulating in It will be interesting to note that the Commission is accumulating in Ottawa a permanent record of some of the most important events which have taken place during the past two years. It has for example, the Christmas broadcasts of 1932 and 1933, the King's message at the opening of the Naval Conference, the Ceremonies of the launching of the liner "Queen Mary", permanent records of Sir Robert Borden, the Right Honourable R. B. Bennett and other prominent Canadians. These records will be extremely valuable in years to come, when the events of today have passed into the state of today have passed into the state of the state

into History.

certs and recitals, 1,043; variety and novelty programs and comedy (including light musical entertainment), 541; modern dance orchestras, 309; old time dance orchestras, 41; drama, 49; children's features, 34; educational, 159. In the educational classification are included 91 broadcast talks and addresses and a number of book reviews, commentaries, etc. The proportion of educational broadcasts in the national service compares favourably with that in the services of other countries. The same relative proportion has been maintained during 1934. Two five-minute news bulletins were given each day, daily weather bulletins being added late in 1933. In October, 1934, the two five-minute news periods were combined into one ten-minute period from 10.45 p.m. Outstanding events of general interest, the Jacques Cartier quater-centennial celebrations being an example, were broadcast and also sporting events such as the World Series baseball games. During the first half of 1933 the Commission supplied 59 of its Canadian programs to the large American broadcasting companies for broadcasting on their networks in the United States and received 76 programs from them. This exchange of programs between the two countries is carried out under a co-operative arrangement between the Commission and the American companies. A few programs were brought to Canada from the British Broadcasting Corporation in Great Britain and one or two Canadian programs sent to the Old Country, notably a special Dominion Day program. During the autumn and winter the Commission operates a special weekly service by short wave to the far north, conveying a weekly news summary, programs and personal messages to Canadians isolated in the Arctic and sub-Arctic regions.

During the parliamentary session of 1934 a committee of the House of Commons reviewed the work of the Commission from the time of its establishment, hearing a number of witnesses, some criticising and some commending it. In its report the committee stated that time, experience, and large expenditure of public money would be necessary to overcome difficulties attending the establishment of national broadcasting in Canada and it recommended consideration by the Government of the advisability of amendments to the Act with a view to the securing of better

broadcasting facilities throughout the Dominion.

At the end of August, 1934, Thomas Maher, vice-chairman and representative of French Canadians, retired from the Commission. His succes-

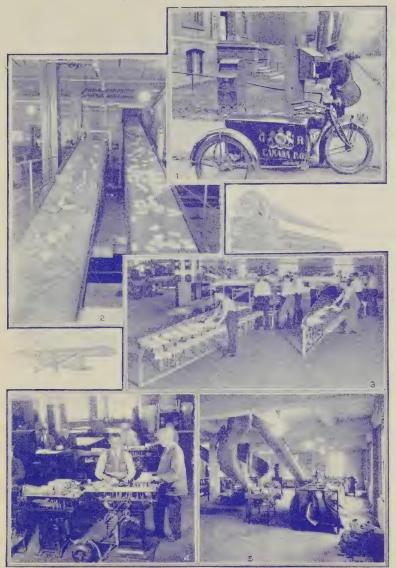
sor, Jacques Narcisse Cartier, was appointed on Nov. 19.

Growing interest in radio entertainment in Canada is attested by the increased sale of receiving sets. During the first six months of 1934, 58,000 sets were sold as compared with 22,250 sets for the corresponding

period of 1933. Of these 8,000 were for automobiles.

The Post Office.—The Post Office is under the direction of a special Department, the Dominion being divided into fifteen districts which in their entirety embrace a territory more extensive than that served by any other system in the world except those of the United States and Russia. Rural mail delivery dates from 1908. The number of post offices has increased from about 3.470 in 1867 to over 12,000 in 1934, the postal revenue in 1934 being approximately \$36,350,000. The auxiliary money order branch issued orders payable in Canada to the amount of \$102,000,000 in 1934, and in other countries to the value of about \$8,300,000. In addition, postal notes to the value of \$9,300,000 were issued in 1934. During the War, the domestic letter rate was increased to 3 cents per ounce, but was reduced to 2 cents as from July 1, 1926. Similarly, the 2 cent (Imperial penny postage) rate to Great Britain and other parts of the Empire,

THE POST OFFICE



The Canadian Postal Service.—In order to maintain a high standard of efficiency, improvements designed to expedite the handling and transmission of mail are being constantly introduced into the system. (1) Collection of mail from city drop boxes; (2) A conveyor belt for the transfer of letters and parcels from the street letter drop of the central office to the sorting rooms; (3) Sorting letters with the help of a lettermail accelerator; (4) Cancelling machines; (5) mechanical equipment for speeding up the handling of parcels.

**Courtesy, Post Office Dept. and Cdn. Govt. Motion Picture Bureau.

established at the time of the Diamond Jubilee of Queen Victoria, instead of the older 5-cent rate, was advanced to 3 cents and then to 4 cents in the war period, but was reduced to 3 cents in 1926, and to 2 cents as from December 25, 1928. In May, 1929, the 2-cent letter rate was applied to France and on Christmas Day, 1929, to correspondence for the countries of South America. On July 1, 1930, the rate of letter postage for all other countries was reduced to 5 cents for the first ounce and 3 cents for each additional ounce. On July 1, 1931, the letter rate of postage for Canada, Great Britain, the British Empire, France, the United States, and all other places in North and South America, was increased to 3 cents for the first ounce and 2 cents for each additional ounce.

In its per capita use of the mails Canada takes a high place. In 1868, the year following Confederation, the average postal expenditure for each member of the population was less than 27 cents, whereas during 1933 each person in Canada expended approximately \$3.56. This is remarkable when it is considered that rates of postage have decreased during this period.

The air mail service was inaugurated about Christmas, 1927. In the first year of operation, 1927-28, the mileage flown was 9,538 and the weight of mail carried, 38,484 lb.; during 1930-31, 1,747,950 miles were flown and 506,881 lb. of mail carried, during 1931-32, 1,229,021 miles were flown and 443,501 lb. of mail carried, and during 1932-33 432,378 miles were flown and 454,303 lb. of mail carried, while during the twelve months ended Mar. 31, 1934, the figures were 513,690 miles and 592,758 lb. respectively.

While the trans-Prairie inter-city air mail service is still suspended, the development of gold mining has brought about the establishment of air mail services to outlying points in Canada, principally to the districts surrounding Siscoe in the province of Quebec; those of Red Lake, Narrow Lake, Goldpines and Jackson Manion in Ontario; Wadhope and Bisset in Manitoba, Lac la Ronge and Ile a la Crosse in Saskatchewan and Cameron Bay in the Great Bear Lake section of the Northwest Territories.

Gold production in Canada has undoubtedly been greatly stimulated by the efficiency of the postal service rendered and this, in turn, has assisted materially in the development of first class air transportation facilities, making the shipment of mining equipment and personnel a rela-

tively simple matter.

The creation of a chain of landing fields across the Maritime Provinces, northern Ontario and British Columbia may be taken as indicative of the establishment of inter-city air mail services on a comprehensive scale in the not too distant future.

CHAPTER XIII

INTERNAL TRADE—WHOLESALE AND RETAIL TRADE —FREIGHT MOVEMENTS—STOCK MARKETS— COMMODITY PRICES—COST OF LIVING

Internal trade in Canada is of primary importance among economic activities. The home consumption of goods and services by a population of 10,000,000 requires a greater expenditure of economic activity than that required for the prosecution of external trade. Internal trade includes the transportation and distribution of goods within the country through the medium of railways, steamships, warehouses, wholesale and retail stores, and other agencies. It includes all professional services such as those carried on by doctors, theatres, hospitals, schools, banks, insurance companies, and innumerable others. All such activities, even if not productive of material goods, add substantially to the national income.

Historically, Canadian internal trade developed as a result of the furtrade, fur being the first great staple sought in Canada by Europeans in exchange for their products. This trade spread until it covered the whole area of the Dominion, forming the framework into which the economic activities of the nation were gradually built. Lumber, fisheries, agricultural, mineral and other resources were gradually exploited. As population grew local manufacturing industries supplanted certain imports. Diverse resources in various parts of the country led to a vast exchange of products, and growing wealth to increasing abundance of services.

Unfortunately, owing to the many ramifications of internal trade, its statistical measurement presents great difficulties. Nevertheless some idea of its extent may be gathered from the fact that in 1932 the grand total value of the activities of those occupied in production of all kinds as estimated under the heading National Income on p. 38 was \$3,251,000,000, while the money value of exports of Canadian produce was \$493,808,841.

The sections which follow deal with those features of internal trade which have not received treatment elsewhere in this handbook.

Wholesale and Retail Trade

The distribution of goods and services, to meet the demands of consumers requires many types of establishments which employ hundreds of thousands of persons and use many millions of dollars of capital. The 1931 Census of Merchandising and Service Establishments, showed that in 1930 there were more than 120,000 retail stores in Canada with sales amounting to \$2,753,000,000. Including proprietors receiving a fixed salary, there were about 300,000 persons on the pay-rolls of these stores and approximately \$300,000,000 paid out to them in salaries and wages during the year.

Retail Services.—More than 40,000 establishments are engaged in supplying services of various kinds to the Canadian public. The provision of amusements and domestic and personal services forms the chief business of the service groups. In all \$248,000,000 were spent by consumers in such establishments and 64,000 persons employed in these

undertakings.

Wholesale Trade.—The supplying of goods for the retail trade requires a complex organization, made up of many types of wholesale establishments. The census of wholesale business showed that there were more than 5,000 wholesale houses in Canada with sales amounting to slightly more than one billion dollars and 8,000 other types of wholesalers handling sales and orders to the value of two billion dollars. Ninety thousand persons found employment in wholesale establishments and their earnings totalled almost \$150,000,000.

Chain Stores.—In recent years, great changes have taken place in the distribution of goods. The chain store is now doing a large and growing proportion of the work of retailing merchandise. A survey of chain stores, made in connection with the Census of Merchandising, showed that chain stores do more than 20 p.c. of the total retail business of the Dominion. In food products, the most developed section of the chainstore movement, chain stores probably account for about 25 to 30 p.c. of the business. The total sales made by chain store organizations were \$548,000,000 in 1930 and those by food stores alone were \$137,000,000.

Internal Freight Movements

An important indicator of the volume of internal trade is found in the reports of revenue freight carried by the railways. In 1933 this revenue freight totalled 57,099,111 tons. The returns by provinces throw light on interprovincial trade in Canada. For example, the four western provinces show a net export to the eastern provinces of 6,040,005 tons of freight made up largely of agricultural and animal products. The eastbound movement of wheat alone amounted to 5,129,886 tons and other grains and agricultural products brought the total net eastern movement up to 6,063,981 tons. The movement of animal products going eastward was 195,582 tons. There were cross movements of mine products, the net movement eastward of 98,565 tons consisting mostly of coal. Forest products moved eastward to the extent of 181,615 tons and manufactures and miscellaneous freight showed a westward movement amounting to 499,738 tons, fish, cement, lime and plaster and fertilizers being the only commodities listed with a net movement eastward.

Freight Originated and Freight Terminated for Nine Months ended September 30, 1934

Province	Originated at Stations in Canada	Received from Foreign Connections	Total Orginated	Terminated at Stations in Canada	Delivered to Foreign Connections	Total Terminated
	000 tons	000 tons	000 tons	000 tons	000 tons	000 tons
Prince Ed. Island Nova Scotia New Brunswick Quebec Ontario Manitoba. Saskatchewan Alberta. British Columbia	134 4,687 1,267 5,493 10,051 2,688 3,758 4,622 2,748	1 87 297 2,083 10,865 104 214 75	135 4,774 1,564 7,576 20,916 2,792 3,972 4,697 2,925	159 3,863 1,169 4,848 14,848 2,200 2,280 1,814 1,890	548 856 2,660 9,231 153 114 - 1,849	159 4,411 2,025 7,508 24,079 2,353 2,394 1,814 3,739
Totals, Nine Months 1934	35,448	13,903	49,351	33,071	15,411	48,482
Totals, Nine Months, 1933	28,570	11,828	40,398	26,567	12,976	39,543

Stock Markets

A subject often classified under the head of finance but akin to internal trade, inasmuch as it concerns a great trading market closely linked with the business organization of the country, is that of stock markets. The principal stock exchanges in Canada are located at Montreal and Toronto, though those at other centres such as Winnipeg, Calgary and Vancouver are increasing in importance. In recent years there has been a huge increase in the volume of business transacted on the stock exchanges, due to the widespread participation of the general public in the "bull" market which extended from 1924 to 1929. Since 1929, however, trading has fallen away considerably, due to heavy losses, business depression and caution on the part of the investing public. July, August and September, 1932, sales



A Corner of the Newly-Organized Toronto Stock Exchange.—The merging of the old Standard Mining Exchange and the old Toronto Stock Exchange, in February, 1934, to form the present Toronto Stock Exchange, with mining and industrial sections, puts this Exchange among the leaders on this continent and, indeed, in the world. The photograph was taken on the day of the merger and shows a sprightly business being conducted round one of the "posts".

Courtesy, J. Scott Rattray, Statistician, Toronto Stock Exchange.

figures showed an advance which, however, proved but temporary. A more substantial increase both in trading and in prices occurred in the early summer months of 1933. It reached a peak in July, after which trading became gradually less active. Prices subsequently have remained firm, with the exception of a short reaction in the autumn of 1933.

The extent of public participation in the stock market is illustrated by the table below showing the volume of sales or the Montreal Exchange.

Numbers of Shares Traded on the Montreal Stock Exchange, by Months, January 1931 to November 1934

Month	1931	1932	1933	1934	Month	1931	1932	1933	1934
Jan Feb. March April May June	377, 241 706, 607 605, 696 477, 053 851, 426 528, 093	136,387 180,070 187,313 204,522	281,197 207,529	681,466 549,182 444,367 313,343	Sept Oct Nov	437,503 308,888	544,528 506,926 206,902 193,093	433,747 399,022 370,525	279,144 185,206 255,545 385,780

Security Prices, 1930 to 1934.—The Bureau of Statistics publishes several series of index numbers designed to measure the movement of security prices in general and of important groups of stocks in particular, which constitute an important barometer of business conditions. The table below shows the course of the investors' index number for representative months in the years from 1930 to 1934 inclusive. A table of the index numbers of mining stocks by months during the same years is also given.

Investors' Monthly Index Numbers of Common Stocks, 1930-1934
(1926=100)

Year and Month	Banks	Utilities	Industrials	Total
1930 (representative months)—				
January	120.3	133 · 3	209 · 1	155 · 7
March		137 · 4	210.2	157.6
June		124.2	165 · 4	134.7
September	117.6	123 · 1	160.1	130.8
December	108-2	104.7	120.3	103 · 1
1931 (representative months)—	400 4	407.0	104 7	. 400 0
January		107·3 116·1	124·7 127·8	106·9 110·8
March		80.4	91.1	80.1
JuneSeptember		65.4	79.3	68.6
December		59.3	74.3	64.8
1932 (representative months)—	02.0	00.0	11.0	04.0
January	90.3	59 - 1	73.7	64.8
March		59.8	71.5	64 - 1
June		34.9	48.8	43.2
September		56.9	73.8	63 • 0
December		45.7	58.9	52.2
1933 (representative months)—				
January	67.8	45.9	60.7	$52 \cdot 9$
March		39.9	59 · 1	48.9
June	73.4	56.4	107 - 1	77 - 4
September	74.8	53 · 5	119 · 1	81.6
December	64.7	47.8	111-4	75.3
1934 (representative months)—	71 7	10.11	110.0	01.0
January March		53·5 58·8	118·6 128·5	81·6 88·0
		54.5	128.5	88·0 87·2
June September		50.1	118.8	83.8

Taking the prices of stocks in 1926 as equal to 100, the monthly index number of industrials reached its peak in September 1929, when it was 315·8, that is to say, industrials were on the average over three times the price prevailing in the base year 1926. In the same month the index for public utility stocks had risen to 163·1 and that for all common stocks to 217·1. November 1929 saw the index for industrials at 209·4, utilities at 130·9, and all stocks at 154·7. Throughout 1930 the trend was more gradually to lower levels with minor upward movements in April and September.

This downward tendency was interrupted in the first two months of 1931, but in April the indexes for these groups fell below the 1926 figures and continued to fall until June, 1932. At that time, utilities touched 34.9, industrials 48.8, and all stocks 43.2. This was the lowest level of the depression and common stock prices since that time have moved irregularly upward. The first major advance came in the early summer of 1933. It was followed by a minor reaction, but subsequently prices scaled upward to even higher levels. In September, 1934, the general index of common stock prices stood at 83.8, with industrials at 118.8, utilities at 50.1, and banks at 74.9.

In mining stocks the peak of the bull market was reached in October, 1927, when the index was 143.8 (prices in 1926=100). From that date it has sagged, with temporary rallies, until it reached the figure of 59.2 in December, 1930. In 1931 this index rose gradually to 82.3 in April, but dropped back to 59.0 in December, and by June, 1932, had fallen to 48.3. Subsequent recovery caused it to advance almost without interruption to 141.1 in August of 1934, but there has been a rather sharp decline to 125.5 for November.

Index Numbers of Twenty Mining Stocks, by Months, 1931-34

Month	1931	1932	1933	1934	Month	1931	1932	1933	1934
Jan. Feb. Mar. April. May. June.	68.5 73.3 77.1 82.3 75.9 69.1	59·7 57·3 57·8 52·4 48·4 48·3	67·1 75·3 68·4 74·5 89·6 104·1	108·9 114·4 128·1 137·2 129·8 138·5	July	68 · 6 67 · 8 63 · 1 59 · 5 64 · 6 59 · 0	55·6 59·7 60·9 57·5 60·9 63·1	106·9 107·4 113·4 112·2 109·4 105·1	137·2 141·1 139·2 133·5 125·5

Prices of Commodities

Trade of all kinds is inseparably linked with price movements. Index numbers measuring the rise and fall of commodity prices are also an important indicator of business and of monetary conditions. The Dominion came into being at a time of falling prices but after 1870 prices rose. From 1872 to 1897, however, there was an unprecedented fall, Canada experiencing a drop of 44.3 p.c., attributable to monetary factors, the great increase in production, and improved transportation facilities. From this point until 1913 prices again tended upward. It was a period of rapid and unprecedented prosperity almost the world over, and with the rising tide of trade, prices rose steeply. On the basis of 1913, the general price level in 1896 was 76.0; by 1912 it had risen to 99.5, a gain of over 23 points. In 1913 and 1914 a short slump preceded the Great War which resulted in a stupendous rise in commodity prices. With the end of the War came a momentary lull, but in 1919 and the early part of 1920 the post-war boom carried the level higher than ever. In May, 1920, the index number was 256.7. The reaction from the optimism which had hoped too much from an impoverished world, drove prices precipitately downward until in December, 1921, the index was 150.6. For the three years, 1922-24, it remained comparatively stable, but rose to 160.3 in 1925, falling to 156.2 in 1926.

Wholesale prices in 1926 were taken as the base of a new index number which in subsequent years fell to an average of $97 \cdot 7$ in 1927, $96 \cdot 4$ in 1928 and $95 \cdot 6$ in 1929. Thereafter in more rapid decline the index

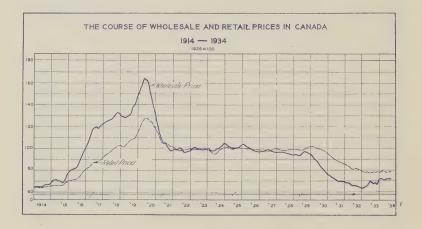
number receded to an average of 86.6 in 1930 and fell to 70.4 in December, 1931. The decline continued almost steadily until February, 1933, when the index was below 1913 levels at 63.5. In the next five months it rose to 70.5, but had dropped back to 69.0 in December. The average for the year at 67.1 was slightly higher than in 1932. From an opening of 70.6 in January, 1934, the index moved irregularly, reaching 72.3 in August, but dropping back steadily to 71.2 for November.

New Index Numbers of Wholesale Prices, 1913-33¹ and, by Months, 1934

(1926 = 100)

1913. 64·0 1914 65·5 1915 70·4 1916 84·3 1917 114·3 1918 127·4 1919 134·0 1920 155·9 1921 110·0 1922 97·3	1925 1926 1927 1928 1929 1930 1931	99-4 February. 102-6 March. 100-0 April. 97-7 May. 96-4 June. 95-6 July. 86-6 August. 72-1 September.	70.6 72.1 72.0 71.1 72.1 72.1 72.3 72.0 71.4 71.2
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¹ 236 commodities to 1926, thereafter 502. ² Preliminary figures.



Cost of Living

Statistics of cost of living constitute a very important phase of price statistics. Index numbers of retail prices, rents, and costs of services issued by the Bureau of Statistics are constructed from a general point of view, having for their object the measurement of the general movement of such prices and costs in the Dominion as a whole, and being so calculated as to make comparisons possible with other general index numbers constructed on similar principles, as, for example, the index of wholesale prices. Calculated as they are on the aggregative principle, i.e., the total

consumption of each commodity, the Bureau's index numbers afford an excellent measurement of changes in the average cost of living in the Dominion as distinguished from that of any particular class or section.

The Bureau's index numbers of the cost of living are designed to show changes relating to average conditions. On the basis of 1926=100, the total index was 65.4 for the year 1913, 124.2 in 1920, 98.9 in 1928 and 99.9 in 1929. The latter part of 1929 was marked by a slight increase over the average for the year, a tendency which was still further apparent in the first month of 1930, when the total index reached 102.1 compared with 99.2 for the year 1930. From that time it has declined steadily and in July, 1931, registered 88.6. In August there was a slight upturn but thereafter the decline continued into 1933. It was halted in June, and since then the index has moved irregularly higher. This firmness has been due largely to higher food prices, and to slight increases in clothing. The general cost of living index averaged 77.7 for 1933.

Index Numbers of Retail Prices, Rents and Costs of Services, 1927-33, and by Months, 1934 (Average prices in 1926=100)

Year	Total Index	Food Index	Fuel Index	Rent Index	Cloth- ing Index	Sun- dries Index
1927 1928 1929 1930 1931 1931 1932 1933 1933 1934 January February March April May June July August September October November December	78·7 79·9 79·4 78·5 78·2 78·4 78·7 79·0 79·3 79·4	98·1 98·6 101·0 98·6 77·3 64·3 63·7 67·7 69·4 72·9 71·0 68·6 67·6 68·4 69·3 68·8 69·4 69·9	97-9 96-9 96-4 95-7 94-2 91-4 87-7 87-4 87-8 87-8 87-8 87-8 87-0 87-6 88-0 88-5	98.8 101.2 103.3 105.9 103.0 94.7 85.1 80.4 80.4 80.4 79.7 79.7 79.7 79.7 79.7 79.7 79.7	97·5 97·4 96·9 93·9 82·2 72·8 67·9 69·2 69·9 69·9 70·1 70·1 70·1 72·3 72·3 72·3	99·1 98·8 99·0 99·4 97·4 94·6 92·7 92·7 92·9 92·9 92·9 92·7 92·6 92·7 92·6

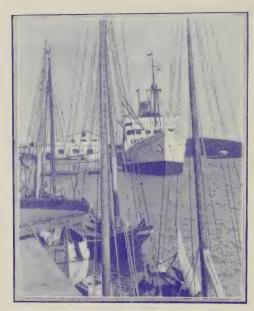
¹ Preliminary figures.

The movement by months during 1934 has been irregularly upward. The rise which marked the first three months (especially March) was not maintained and during the succeeding four months the index lost practically all it had gained. Since July, however, the upward movement has been resumed, the index standing at 79.4 for November.

CHAPTER XIV

EXTERNAL TRADE OF CANADA—NON-COMMODITY EXCHANGES

External Trade



C.N.S.S. Liner at Bermuda.

Courtesy, Canadian National Railways.

The steady decrease Canada's foreign commerce, both import and export, which had its inception in the autumn of 1929, was definitely checked in the early months of the fiscal year 1933-34, and during the last nine months (July-March) it shows a very marked recovery. A similar recovery was also noticeable in the foreign trade of many of the chief commercial nations of the world. The total trade of Canada for the fiscal year 1933-34 compared with 1932-33, shows an increase of 15·1 p.c. on a value basis, and 12.0 p.c. on a volume basis; total imports increased 6.7 p.c. on a value basis, and 5.9 p.c. on a volume

basis; while the Dominion's total domestic exports show an increase of 22·3 p.c. on a value basis, and 17·2 p.c. on a volume basis. Canada, in the production and exportation of many staple products, ranks high amongst the leading nations of the world.

Canada's total trade for the fiscal year 1934 amounted to \$1,019,453,094, an increase of 14·9 p.c., compared with 1933, but a decrease of 12·6 p.c. compared with 1932. In spite of the large decrease in the past four years total trade is now more than eight times that at Confederation.

The Dominion's total trade with the United Kingdom in 1934 was \$333,402,875, showing an increase compared with 1933 of 22.8 p.c. and with 1932 of 18.5 p.c. Total trade with the United States in 1934 was \$437,538,613, an increase of 14.8 p.c. compared with 1933, but a decrease of 26.6 p.c. compared with 1932. The above figures of total trade include exports of foreign produce from Canada as well as domestic exports.

In 1934 the percentage of total Canadian trade carried on with the United Kingdom was 32.7, with other British countries 8.4, with the

United States 42.9, and with other foreign countries 16.0, whereas in 1933 total Canadian trade with these same countries was in the following proportions: 30.8 with the United Kingdom, 8.1 with other British countries, 42.7 with the United States, and 18.4 with other foreign countries.

As regards total Canadian trade, therefore, the relative trend in 1934 was upwards with the United Kingdom, with other British countries, and with the United States, but downwards with other foreign countries.

The following table shows the trend of total Canadian trade (i.e., excluding the small percentages of foreign merchandise exported) for 1914, 1922, 1929 and annually thereafter.



Loading Bananas, Jamaica, B.W.I.

Courtesy, Canadian National Railways.

Total Canadian Trade1 with British Empire and Foreign Countries

		Total			
Fiscal Year	United Kingdom	Other British Empire	United States	Other Foreign Countries	Canadian Trade
	\$	\$	\$	\$	\$
1914	347,324,375 416,497,018 623,771,866 470,925,703 368,743,891 280,415,504 270,827,074 332,702,175	45,844,988 78,447,645 169,605,632 161,320,037 129,018,931 86,352,876 71,676,177 85,726,845	559, 674, 963 808, 546, 839 1, 367, 624, 374 1, 362, 491, 800 934, 067, 581 586, 873, 449 375, 708, 455 432, 630, 820	97,938,111 184,553,510 468,386,891 373,794,344 274,524,959 201,206,377 161,971,993 162,081,930	1,050,782,437 1,488,045,012 2,629,388,763 2,368,531,884 1,706,355,362 1,154,848,206 880,183,699 1,013,141,770

¹These figures do not include exports of foreign merchandise.

The following résumé of total trade for the years 1921-34 shows that for only three of the fourteen years did imports exceed exports. The year of highest per capita trade was 1921 with 1929 a close second; the year of lowest per capita trade in the period was 1933.

Ratio of Exports to Imports and Value per capita of Exports, Imports and Total Trade, fiscal years 1921-34

	Excess of Imports Entered	Excess of Total Exports	Percentage Rate of Total Exports		Value	es per capit	a of—
Fiscal Year	for Consump- tion over Total Exports	over Imports Entered for Con- sumption	to Imports Entered for Con- sumption	Estimated Population	Exports Canadian Produce	Total Imports	Total Trade ¹
	\$	\$	p.c.	No.	\$	\$	\$
1921 1922 1923 1924 1925 1926 1927 1927 1928 1929 1930 1931 1931 1932 1932 1933 1934	103,335,512	6,122,677 142,716,593 165,396,430 284,429,106 401,371,405 236,680,637 141,641,568 123,216,984 	97.60 100.82 117.78 118.51 135.69 143.28 122.92 112.76 109.72 91.72 90.12 101.57 118.29 135.01	8, 787, 949 8, 919, 000 9, 010, 000 9, 143, 000 9, 294, 000 9, 451, 000 9, 636, 000 9, 385, 000 10, 229, 000 10, 276, 786 10, 506, 000 10, 881, 000 10, 835, 000	135 · 32 83 · 00 103 · 39 114 · 35 115 · 04 139 · 10 129 · 96 124 · 92 136 · 00 117 · 83 77 · 09 54 · 86 44 · 36 53 · 47	141·20 83·84 89·09 97·72 85·76 98·13 106·99 112·78 126·23 122·31 87·39 55·06 38·05 40·04	276 · 52 166 · 84 192 · 48 212 · 07 200 · 80 237 · 32 236 · 95 237 · 70 262 · 23 240 · 14 164 · 48 109 · 92 82 · 41 93 · 51

¹Not including exports of foreign produce.

IMPORTS

For the fiscal year ended Mar. 31, 1934, imports were more by \$27,414,881, or 6·7 p.c. than for the year 1933; 73 p.c. of this increase being with Empire countries and 27 p.c. with foreign countries. Of the total imports of \$433,798,625 for 1934, 54·9 p.c. came from the United States; 24·2 p.c. from the United Kingdom; 8·2 p.c. from other British countries; and 12·7 p.c. from other foreign countries. In 1933 the proportions were 57·2 p.c., 21·3 p.c., 8·3 p.c., and 13·2 p.c. respectively.

The percentages of imports from the United States, other British countries, and other foreign countries to total imports have, therefore, shown declines for the fiscal year 1934 but an increase is shown in the case of the United Kingdom.

The table below gives the import figures for British and foreign countries for the years 1914, 1922, 1929, 1930, 1931, 1932, 1933 and 1934.

Imports from British and Foreign Countries

		Canadian Im	ports from—		
Fiscal Year	United Kingdom	Other British Empire	United States	Other Foreign Countries	Total Imports
	\$	\$	\$	\$	\$
1914	132,070,406 117,135,343 194,041,381 189,179,738 149,497,392 106,371,779 86,466,055 105,100,764	22, 456, 440 31, 973, 910 63, 346, 829 63, 494, 864 55, 401, 034 41, 440, 214 33, 918, 269 35, 303, 122	396,302,138 515,958,196 868,012,229 847,442,037 584,407,018 351,686,775 232,548,055 238,187,681	68,365,014 82,736,883 140,278,652 148,156,943 117,307,251 79,005,136 53,451,365 55,207,058	619, 193, 998 747, 804, 332 1, 265, 679, 091 1, 248, 273, 582 906, 612, 695 578, 503, 904 406, 383, 744 433, 798, 625

The table below shows the positions of the twenty chief commodities in import trade for the past two fiscal years.

Twenty Chief Commodities Imported, 1933 and 1934

Rank		Commodity (In order of value, 1934)	Imports, fis	scal year	Increase (+) or Decrease (-) 1934 Compared with 1933		
1933	1934	(In order of value, 1954)	Quantity	Value	Quantity	Value	
1 2 11 5 4 7 8 3 6 9 20 19 14 15 30 13 16 26 25	1 2 3 4 5 6 7 8 9 10 11 12 13 14	Coal	11,655,393 1,066,463,853 132,456,924	\$ 29, 201, 459 25, 173, 239 14, 343, 617 14, 029, 665 13, 847, 326 13, 760, 242 13, 108, 114 1, 660, 588 10, 576, 033 8, 372, 627 7, 389, 717 6, 128, 311 5, 915, 024 5, 417, 082 5, 242, 168 5, 178, 936 4, 977, 882 4, 843, 532		$\begin{array}{c} - & 1,704,886 \\ + & 6,895,081 \\ + & 613,931 \\ - & 150,424 \\ + & 3,737,410 \\ + & 3,753,779 \\ - & 2,408,395 \\ - & 730,560 \\ - & 795,860 \\ + & 2,669,282 \\ + & 1,295,817 \\ - & 133,518 \\ + & 119,973 \\ + & 2,466,729 \\ - & 937,729 \\ + & 106,556 \\ + & 1,875,125 \end{array}$	

It is an interesting study to note the changing relations over a number of years between the commodities listed by rank. Coal, now in first place, has been among the first three commodities since 1890 but machinery, which is now in fifth place, headed the list in 1930, with imports valued at \$69,000,000 and was in sixth place twelve years ago when its imports were valued at \$37,000,000, being then outranked by: sugar and products, coal, cotton goods, woollen goods, and rolling-mill products. Crude petroleum has risen to prominence rapidly since 1920, when it was in eleventh place. Sugar for refining, which was in third place in 1933 and fifth place in 1932 is now in eighth place. The most outstanding change is in the case of raw cotton which from eleventh place in 1933 and fourteenth place in 1932 has now attained third place, thereby reflecting the relative improvement in the Canadian textile industry.

Commodities are classified by the Bureau of Statistics into nine main groups as follows: agricultural and vegetable products; animals and animal products; fibres, textiles, and textile products; wood, wood products and paper; iron and its products; non-ferrous metals and their products; non-metallic minerals and their products; chemicals and allied products; and miscellaneous commodities. Imports for six groups showed increases for 1934. The greatest absolute increases were experienced by fibres, textiles and textile products, iron and its products, and animals and animal products, in the order given, but the greatest percentage increases were shown by fibres, textiles and textile products (29.7 p.c.); animals and animal products (28.5 p.c.); and iron and its products (17.3 p.c.).

The most important group from the standpoint of imports was agricultural and vegetable products under which classification imports reached \$99,828,810, by far the most important items being alcoholic beverages, sugar and fresh fruits. This group showed an increase of 2.9 p.c. from the 1933 figures. The other chief groups in order of value of imports



Among the many tropical and semi-tropical products imported into Canada from the British West Indies are marine sponges. While they do not play a very important part as regards total value of such imports, they illustrate very well the switching of Canadian trade, from foreign countries to those islands, in products which, by nature, they are well fitted to exchange with Canada. In the fiscal year 1926, less than 16 p.c. of Canada's total imports of marine sponges were received from the B.W.I., but in the following year, when sponges from British countries entered duty free, the percentage increased to 38; by 1929 it had risen to 46 p.c., and while there were declines to 37 p.c. and 36 p.c., respectively, for the following two years, there were increases to 51 p.c., 63 p.c., and 74 p.c., respectively, for the years 1932, 1933, 1934. The illustration shows a sponge wharf, B.W.I. Inset: A native trimming sponges.

EXPORTS

The Dominion leads the world in exports of wheat, printing paper, nickel and asbestos; occupies second place in exports of wheat flour; fourth place in the exports of automobiles and wood pulp; and sixth place as regards rubber tires. The exports of these staple products from Canada make up about 50 p.c. of the Dominion's total domestic exports. Canada also ranks high in the world's exports of many other staple products such as lumber and timber, fish, copper, barley, cheese, raw furs, etc.

Total exports for the fiscal year ended March, 1934, were \$585,654,469, of which \$6,311,324 were exports of foreign produce. The domestic exports were, therefore, \$579,343,145, and showed an increase of \$105,543,190 or 22·3 p.c., 53·0 p.c. of this increase being with Empire countries, and 47·0 p.c. with foreign countries, compared with 1933. Of these domestic exports 39·3 p.c. went to the United Kingdom, 33·6 p.c. to the United States, 8·7 p.c. to other British countries, and 18·4 p.c. to other foreign countries. The United States and the United Kingdom have always been Canada's two best customers, but the export records for 1932, 1933 and 1934 show that, as compared with 1931, the percentages of our exports to the United Kingdom are increasing, while those to the United States show a decrease.

Canadian Exports to British and Foreign Countries

		Canadian Exp	orts to—		Total
Fiscal Year	United Kingdom	Other British Empire	United States	Other Foreign Countries	Domestic Exports
1906 1914 1922 1929 1930 1931 1931 1932 1933	\$ 127, 456, 465 215, 253, 969 299, 361, 675 429, 730, 485 281, 745, 965 219, 246, 499 174, 043, 725 184, 361, 019 227, 601, 411	\$ 10,964,757 23,388,548 46,473,735 106,258,803 97,825,173 73,617,897 44,912,662 37,757,908 50,423,723	\$3,546,306 163,372,825 292,588,643 499,612,145 515,049,763 349,660,563 235,186,674 143,160,400 194,443,139	\$ 13,516,428 29,573,097 101,816,627 328,108,239 225,637,401 157,217,708 122,201,241 108,520,628 106,874,872	\$ 235, 483, 956 431, 588, 439 740, 240, 680 1, 363, 709, 672 1, 120, 258, 302 799, 742, 667 576, 344, 302 473, 799, 955 579, 343, 145

Twenty Chief Commodities Exported, 1933 and 1934

Ra	Commodity (In order of value, 1934)		nmodity fiscal year ended March, 1934			Increase (+) or Decrease (-) 1934 Compared with 1933		
1933	1934		Quantity	Value	Quantity	Value		
1 2 11 3 6 5 4 9 13 8 7 12 14 10 24 30 25 15 15 15 15 16 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	Wheat bush. Newsprint paper cwt. Nickel cwt. Wood pulp. cwt. Planks and boards. Mft. Fish. cwt. Wheat flour brl. Whiskey pf.gal. Meats. Copper bars, rods, etc. cwt. Raw furs. brl. Automobiles. No. Cheese. cwt. Aluminium in bars. cwt. Lead. cwt. Silver ore and bullion. oz. Asbestos, raw. ton Pubwood. cord	175, 534, 255 40, 481, 134 1, 066, 421 12, 906, 150 1, 210, 769 5, 619, 937 2, 543, 225 2, 013, 093 3, 476, 114 28, 401 749, 669 2, 154, 563 347, 129 3, 024, 724 4, 841, 161 162, 330 693, 098	\$ 118, 969, 445 73, 238, 482 28, 198, 238 25, 102, 381 21, 258, 286 20, 304, 933 19, 729, 782 16, 028, 484 15, 524, 562 14, 030, 007 12, 823, 785 11, 454, 088 8, 176, 271 6, 284, 375 6, 174, 995 5, 902, 332 5, 686, 890 5, 494, 002	- 63,839,000 + 7,221,437 + 740,814 + 4,119,327 - 591,094 + 703,198 + 351,566 + 551,166 + 227,840 + 1,696,088 + 15,033 - 107,447 + 529,024 + 165,200 + 652,679 - 744,471 + 57,436	\$ 11,576,920 - 898,381 + 20,733,738 + 7,316,246 + 10,159,326 + 3,664,517 + 2,742,672 + 6,107,577 + 8,820,854 + 5,136,371 + 3,396,257 - 582,144 + 2,789,610 + 2,589,672 + 1,270,319 + 2,533,370		

Of the nine main classification groups in the fiscal year ended 1934, the exports for the agricultural and vegetable products group were first and reached \$205,804,526, with wheat by far the chief item, accounting for 58.0 p.c. of the total. The wood, wood products and paper group was second in exports (\$143,142,398). Newsprint paper accounted for about 51.2 p.c. of these exports. Non-ferrous metals and their products was third with exports of \$81,764,208 followed by the animals and animal

A FEW STAPLES OF CANADA'S EXPORT TRADE



Canadian Butter for Export.

Receiving Cheeses at an Export Warehouse in Montreal.



Canned Salmon being Shipped from the Pacific Coast to Liverpool, England.

Barrels of Canadian Apples in a Liverpool Warehouse.

products group with \$75,151,480. The chief items in the former group were nickel, copper, aluminium, zinc, silver and lead; and in the latter, fish, meats, raw furs, cheese and cattle.

Wheat has been the leading export for more than twenty years and even though exports of wheat in 1930 showed a decrease of \$212,770,851 and the figures for 1931 and 1932 showed further decreases of \$38,333,706, and \$61,680,386 respectively, this commodity still holds first place, and the 1934 export figures amounted to \$118,900,000 (a value higher by about \$3,000,000 compared with 1932 but \$11,600,000 less than in 1933). But there have been many changes within this period in the order of all the other commodities listed. So recently as 1920 wheat was followed by meats (now ninth), wheat flour, planks and boards, and printing paper (now second), in the order named.

REVIEW OF TRADE BY MONTHS IN LATEST YEARS

The monthly trade figures as available when going to press as compared with 1931, 1932 and 1933 were as follows (\$000 omitted):—

Imports and Exports, by Months, January 1931 to November 1934

	Imports				Exports of Canadian Produce			
Month	1931	1932	1933	1934	1931	1932	1933	1934
	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000
January February March April May June July August September October November December	50, 414 50, 994 75, 381 51, 189 73, 457 52, 509 48, 379 47, 308 45, 379 45, 933 46, 911 40, 290	34,115 35,586 57,448 29,794 44,361 40,743 35,711 36,527 34,504 37,095 37,769 28,961	24,441 23,514 32,851 20,457 32,927 33,619 35,738 38,747 38,698 41,070 43,712 35,368	32,391 33,592 47,519 34,814 52,887 46,186 44,145 43,507 42,208 47,229 49,884	44,683 43,873 55,048 33,935 59,833 54,348 49,645 48,764 48,991 55,538 57,487 53,255	38,367 36,431 39,749 26,976 40,594 40,945 42,321 41,314 42,187 56,626 45,945 42,616	31, 562 26, 398 36, 579 20, 012 45, 576 45, 968 51, 345 44, 723 57, 785 60, 214 60, 385 50, 929	46, 652 37, 842 57, 638 31, 582 57, 900 58, 044 56, 122 55, 28, 133 67, 748 65, 129

The upward trend in Canada's trade, which began in May, 1933, was continued during 1934. Canada's total trade for November, 1934, exceeded that for any month since May, 1931; imports exceeded those for any month since March, 1932, with the single exception of May, 1934, and domestic exports exceeded those for any month since December, 1930, except for the month of October, 1934.

The Dominion's total commodity trade for November, 1934, amounted to \$115,561,000 compared with \$104,639,000 in November, 1933, \$84,390,000 in November, 1932, and \$108,341,000 in 1931. The increase for November, 1934, over November, 1933, was 10.4 p.c.; over November, 1932, it was

36.9 p.c.; and over November, 1931, 6.6 p.c.

For the eleven months, January to November, 1934, total trade amounted to \$1,072,870,000 compared with \$852,007,000 for the same period of 1933, \$882,383,000 for 1932, and \$1,150,833,565 for January to November, 1931. The percentage change of the 1934 figures for the eleven months of these respective years was 25.9 p.c. increase compared with 1933, 21.6 p.c. increase compared with 1932 and 6.8 p.c. decrease compared with 1931.

Imports in 1934 were greater for each individual month than they were for 1933, from April onward they were greater than for the same



month of 1932, and for October and November they were greater than for those months of 1931. Exports in 1934, however, show the greater improvement; not only did they exceed those for 1933 and for 1932 in each individual month but they exceeded the 1931 exports for corresponding months in January, March, and for each month June to November inclusive. The excess was specially marked for September, October and November.

When the figures are analysed by the proportion of trade carried on with the United Kingdom and the United States, it is found that trade with the former has improved very much more than that with the United States, although for the eleven months of 1934, the proportion of trade with the United States, both import and export, shows a pronounced

upward trend.

Thus, in the period January to November, 1931, the proportion of total trade carried on with the United States was 53·45 p.c. (62·86 p.c. of all imports and 42·89 p.c. of Canadian exports); in the same months of 1932 it was 45·90 p.c. (58·30 p.c. of all imports and 33·70 p.c. of Canadian exports); in the period January to November, 1933, it was 41·59 p.c. (53·92 p.c. of all imports and 31·83 p.c. of Canadian exports); while for the eleven months of 1934 it was 43·62 p.c. (56·86 p.c. of all imports and 32·65 p.c. of Canadian exports). On the other hand the proportion of total trade carried on with the United Kingdom in the

eleven months, January to November of the same years was 22.34 p.c. (17.20 p.c. of all imports and 28.06 p.c. of Canadian exports) in 1931; 28.13 p.c. (20.41 p.c. of all imports and 35.63 p.c. of Canadian exports) in 1932; 32.82 p.c. (24.48 p.c. of all imports and 39.58 p.c. of Canadian exports) in 1933; and 33·29 p.c. (22·36 p.c. of all imports and 42·26 p.c. of Canadian exports) in 1934. Trade with the British Empire outside the United Kingdom has also shown decided improvement in the same period. The figures of proportion of total trade with British Empire Countries outside the United Kingdom are: 1931, 7.47 p.c. (6.84 p.c. of total imports and 8.18 p.c. of Canadian exports); 1932, 7.74 p.c. (7.60 p.c. of total imports and 7.92 p.c. of Canadian exports); 1933, 8.57 p.c. (8.79 p.c. of total imports and 8.44 p.c. of Canadian exports); 1934, 9.36 p.c. (8.41 p.c. of total imports and 10.16 p.c. of Canadian exports).

THE CANADIAN TRADE BALANCE

From Confederation to 1934, exports of all produce from Canada to all countries exceeded imports in twenty-nine years, while imports exceeded exports in thirty-eight years. The largest excess of exports in a single fiscal year was in 1918, a "war year", when it amounted to \$622,637,000; while the largest excess of imports, amounting to \$294,139,000 occurred in 1913. The "unfavourable" balances occurred chiefly in 1903-13, years of heavy capital imports.

Canada's balance of trade with the United Kingdom has been favourable since 1889. With the United States it is usually unfavourable.

Trade Balances of the Principal Countries of the World, calendar years 1932 and 1933

Credit balances marked (+) Debit balances marked (-)							
Rank	G	1932		1933			
1932 1933	Countries	Amount	Per Capita	Amount	Per Capita		
		Million \$	\$ c.	Million \$	\$ c.		

Ra	ınk	Gt	19	932	1933		
1932	1933	Countries	Amount	Per Capita	Amount	Per Capita	
			Million \$	\$ c.	Million \$	\$ c.	
1 2 5 7 9 3 4 6 8 14 10 12 13 11 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	United States. Germany Australia. Canada British India. Union of South Africa Argentina Brazil. New Zealand Sweden. Denmark Japan. Spain. Norway Belgium	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	+ 219·1 + 161·5 + 136·6 + 103·4 + 97·2 + 77·0 + 55·6 - 2·8 - 13·2 - 15·7 - 19·3 - 24·4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
16	16	Italy	- 84.2				
18	17	Switzerland. Netherlands	- 211.8				
17							
19 20	19 20	France					
					1		

Trade Balance in Recent Months.—Canada's visible trade balance for the period January to November, 1934, was favourable to the extent of \$124,145,000 compared with a favourable trade balance of \$120,315,000 for the same months in 1933, of \$35,077,000 in the same period of 1932, and with an unfavourable balance of \$24,783,617 for January to November, 1931.

A FEW OF CANADA'S BEAUTY S



Canada's resources, as a country for the sportsman and tourist, are exceptionally for cart in eastern Quebec, similar touches of old-world atmosphere are to be see in the Eastern Townships. Maritimes—(4) The "Reversing Falls" Saint John rural Nova Scotia near Glenwood, N.S. Ontario—(6) Reaching for a 'big portion of the Federal District Driveway along the Rideau canal, Ottawa. West National Park, Manitoba: (10) Bow river and Cascade mountain, Banff National Park, Manitoba:

Courtesy,

S AND TOURIST ATTRACTIONS



d varied. The plate shows: Quebec—(1) Percé Village, Gaspé Coast; (2) A native hany parts of the province; (3) A scene along the highway along lake Memphremagog was Brunswick; (5) A stretch of the Shelburne-Yarmouth Highway passing through Ieshaw falls, French river; (7) A view of Beaumaris, Muskoka, from the air: (8) A lunda—(9) The Government pier and bathing beach, Clear lake, Riding Mountain Park, Alberta; (11) A scene in Stanley Park, Vancouver, British Columbia.

al Parks of Canada, Department of the Interior, Ottawa, and Department of Roads, Province of Quebec.

Non-Commodity Items of Foreign Exchange

The Tourist Trade.—An item in the above which deserves special mention is the tourist trade. Since 1926 various methods have been adopted by the Dominion Bureau of Statistics for obtaining a general idea of the amount and value of this trade. The following figures of tourist expenditures 1926-33 are in accordance with the latest revision. For the year 1933 the tourist trade was calculated to have brought \$117,000,000 (Canadian funds) into the country, and after the deduction of \$51,000,000 spent by Canadian tourists abroad, the favourable balance was estimated at \$66,000,000. By far the most important factor is the automobile traffic between Canada and the United States, it being estimated that such United States tourists spent \$77,250,000 (Canadian funds) in Canada in 1933, while Canadian automobile tourists spent about \$24,611,000 in the United States. Tourist expenditures are, in part, the return which Canada derives from her picturesque scenery, her fish and game, her winter sports and other advantages, and represent an "invisible" export which is increasing steadily in importance.

Tourist Expenditures, 1926-33

Year	Expenditures of Outside Tourists in Canada (1)	Expenditures of Canadian Tourists in Other Countries (2)	Excess of (1) over (2)
	8	\$	\$
1926 1927 1928 1929 1930 1931 1932 1933	238,477,000 275,230,000 309,379,000 279,238,000 250,776,000		$102,420,000 \\ 129,727,000 \\ 167,708,000 \\ 187,734,000 \\ 178,849,000 \\ 174,324,000 \\ 155,045,000 \\ 66,264,000$

¹ Canadian funds.

Canada-United States tourist traffic is greater than that between any other two countries in the world. The high per capita wealth in both countries promotes travel and the close interlocking of business interests necessitates many business trips across the frontier. The United States has one passenger automobile to every 6·1 persons and Canada, one to every 11·7¹. For the United States family of moderate income the relative cheapness of an automobile holiday in Canada is attractive. Railway and steamship lines add substantially to the number of holiday seekers.

The benefits of the tourist business are not altogether one-sided, however. Canadians are attracted by the larger United States' cities and the more "settled" type of scenery, while large numbers of wealthy Canadians visit the United States' winter playgrounds in the south. The estimated annual expenditures of Canadian tourists in the United States is only about one-third that of United States' tourists in Canada, but in comparing these the relative populations of the two countries should be considered. If United States' tourists to Canada were in the same propor-

¹These figures apply to passenger cars only, whereas the proportion given on p. 110 includes all motor vehicles.

tion to their population as Canadian tourists to the United States are to ours, the income accruing to Canada from this source—assuming expenditures to be on the present basis—would be more than \$600,000,000. Canadian car owners, who bulk large in this movement, are wealthier on the average and the number of passengers per car is greater, hence the higher average expenditure.

Balance of International Payments

A nation's commodity trade alone cannot be taken as a complete index of its prosperity, for there are many other exchanges besides those of goods, all of which must be taken into account in order to find out the basic state of affairs in regard to total international transactions. Among such more or less "invisible" exchanges may be mentioned interest and freight payments, financial services, insurance premiums, advertising payments, royalties, cash contributions to various objects, the financing of tourist expenditures, the money movement which accompanies immigration and emigration, etc. If all the visible and invisible items which make up a country's dealings were set down and totalled, the debit or credit balance would be a final invisible item representing an export or import of capital. The accompanying table, which includes the latest estimates of the Bureau of Statistics, shows debit and credit items of Canada's business relations and exchanges with other countries as a whole for 1932 and 1933.

Estimated Balance of Canada's International Payments, 1932 and 1933 ("000" omitted)

19331 1932 Exports Imports Item Exports Imports Visible and Visible and Visible and Visible and Invisible Invisible Invisible \$ 000 \$ 000 \$ 000 \$ 000 1. Commodity Trade.—(Corrected by deduction of non-commercial items, over valuations, etc.) 496, 275 416.566 535.000 389,250 Corrected total of commodity trade. 2. Exports and imports of gold coin and bul-60,825 2.175 66,000 850 7,919 27,000 350 of exchange premium on gold..... 58,864 40,000 55,000 38,864 4. Freight payments and receipts, n.o.p..... 50,000 110,000 212,448 56,000 57,403 248,000 Tourist expenditures. 275,000 6. Interest payments and receipts..... 50,000 7,127 10,379 6,080 5,000 6,000 Immigrant remittances... 8,850 6,500 9,500 8. Government expenditures and receipts... 1,000 17,000 3,500 1,000 1,000 500 9. Charitable and missionary contributions. 24,000 15,000 11,000 10. Insurance transactions..... 1,500 3,000 2,000 3,250 4,000 3,775 3,250 4.000 13. Capital of immigrants and emigrants. 4,416 Earnings of Canadian residents employed in U.S.A. (net figure).....

 Exchange London and New York on inter-700 750 12,000 est and maturity payments and receipts 3,000 10,000 23,750 Known omissions, such as direct magazine subscriptions, artists' and entertainers' $\frac{4,000}{72,138}$ 4,000 receipts, radio programs, etc. 40.500 17. Difference between all exports and imports2

928,927

928,927

864.700

864,700

Totals.....

¹ Preliminary figures.

² This item represents net capital movements and errors and omissions.

CHAPTER XV

PUBLIC FINANCE

Dominion Finance

Among the powers conferred on the Dominion Government by the British North America Act were: the right to deal with the public debt and property; the right to raise money by any system of taxation (the provinces were limited to direct taxation); and the borrowing of money on the credit of the Dominion. The Department of Finance was established in 1869 to have "supervision, control and direction of all matters relating to financial affairs, public accounts, and revenue and expenditure of the Dominion".

At Confederation the revenues, notably the customs and excise duties which had previously accrued to the treasuries of the provinces, were transferred to the Dominion and combined into a consolidated revenue fund against which certain specific charges such as cost of collection, interest on public debt, and salary of the Governor General were made. The remainder of the fund was appropriated by Parliament. The public works, cash assets and other property of the provinces, except lands, mines, minerals and royalties, also became Dominion property. In its turn the Dominion became responsible for the debts of the provinces.

Since the main source of the revenues of the provinces was now taken over the Dominion undertook to pay annual subsidies to the provinces for the support of their governments and legislatures. With the growth of the Dominion, the principle of subsidy payments has been extended to the western provinces and from time to time adjustments have been made

in the moneys so paid.

At the time of the formation of the Dominion, the revenue collections were comparatively small but obligations shouldered by the central government provided for completion of the Intercolonial Railway and. with the entry of British Columbia, for the construction of the Canadian Pacific Railway; early in the present century the National Transcontinental was undertaken. Indeed the single item of railways and canals accounted for almost the entire increase in the net national debt of from \$76,000,000 in 1868 to \$336,000,000 in 1914. To a very great extent therefore, the national debt down to the Great War represented expenditures for productive purposes and tangible assets were acquired by the Dominion therefor. Moreover, this debt was largely held outside Canada. The following decade witnessed the tremendous increase in the debt from \$336,000,000 to a maximum of \$2,453,777,000 in 1923—an increase of over two billions of dollars not represented, in the main, by corresponding assets and upon which interest charges were relatively high. One redeeming feature was that the major portion of this debt was now held within the country, for the abnormal prosperity induced by the War provided Canadians with the funds to invest in Government issues and the added desire of the Government to tap the rapidly accumulating resources of the masses was instrumental in instructing the man-in-the-street how to invest his money in bonds. Following 1923 there was a steady fall in the net debt to \$2,177,-763,959 in 1930, but the depression with accompanying railway deficits and

large necessary expenditures for unemployment relief have established a new high level of indebtedness of \$2,729,978,140 as at Mar. 31, 1934. This equivalent of \$251.96 net debt per capita was exceeded by the per capita figures between 1920 and 1927. The maximum of per capita debt, viz., \$272.31, was reached in 1923.

The growth of the Dominion revenue, the Dominion expenditure, and

the net public debt is briefly outlined in the following table:-

Dominion Finances, 1868-1934

Fiscal Year	Revenue Receipts	Per Capita Receipts ²	Total Expenditure	Per Capita Expendi- ture ²	Net Debt at End of Year	Net Debt per Capita ²
-	\$	\$	\$	\$	\$	\$
1868. 1871. 1881. 1891. 1901. 1911. 1921. 1926. 1927. 1928. 1929. 1930. 1931. 1932. 1933.	19,335,561 29,635,298 38,579,311 52,514,701 117,780,409	4 · 05 5 · 55 6 · 85 7 · 98 9 · 78 16 · 34 49 · 64 40 · 51 41 · 55 43 · 68 45 · 88 43 · 68 34 · 33 32 · 05 29 · 21 29 · 95	$\begin{array}{c} 14,071,689 \\ 19,293,478 \\ 33,796,643 \\ 40,793,208 \\ 57,982,866 \\ 122,861,250 \\ 528,283,1991 \\ 355,186,4231 \\ 358,555,7511 \\ 378,658,4401 \\ 388,805,9531 \\ 398,176,2461 \\ 440,008,8541 \\ 440,008,8541 \\ 450,965,5401 \\ 531,760,9831 \\ 457,968,5851 \end{array}$	4·17 5·53 7·82 8·44 10·79 17·04 60·11 37·58 37·21 38·50 38·77 39·01 42·41 42·93 49·93 42·27	75,757,135 77,706,518 155,395,780 237,809,031 268,480,004 340,042,052 2,340,878,984 2,389,731,099 2,347,834,370 2,296,850,233 2,225,504,705 2,177,763,959 2,361,611,937 2,375,846,172 2,596,480,826 2,729,978,140	22·47 22·09 35·82 49·09 47·18 266·36 252·88 243·68 233·59 221·95 213·38 218·00 226·14 243·80 251·96

1 Includes advances to railways and transfers from active to non-active assets.

² Per capita figures for census years are based upon census populations and for intervening years on revised official estimates.

Fiscal Year 1933-34.—The Minister of Finance, the Hon. E. N. Rhodes, in his Budget Speech of April 18, 1934, outlined the financial position of Canada and estimated the 1934-35 income and expenditure of the Government. Provision was made by certain taxation changes, detailed in the Budget and summarized on p. 143, for the necessary funds to cover estimated ordinary expenditures for the fiscal year ending Mar.

31, 1935.

The Minister asserted with confidence that the fiscal year 1933-34 had been one of recovery from the progressive decline in business conditions which had marked immediately preceding years. The Government's consistently pursued policy, designed to stimulate a rise in prices by every sound means, had been approached from both the international sphere, in its relation to the world level of commodity prices, and, within Canada, by fostering a lowering of interest rates and easing of the money markets. The Minister considered that a considerable measure of success had been achieved. He pointed out that while the present inadequate machinery of the Finance Act had been administered with this end in view, the Bank of Canada is designed to provide an effective mechanism for co-operating with other countries in a program to further raise and to stabilize price levels.

The Public Accounts.—In the Public Accounts receipts are classified under two headings—receipts from taxation, and non-tax revenue resulting from public services maintained by the Government. Expenditures are classified under four headings: (1) Ordinary expenditures, which include

the costs of government, pensions, subsidies to the provinces, etc.: (2) Capital expenditures on account of railways, canals and public works, for which corresponding assets are acquired; (3) Special expenditures including unemployment relief, etc.; and (4) Non-active loans and advances which are not interest-producing but are required in part to meet deficits of services for which the Government accepts responsibility.

The public revenues were increased in 1933-34 as compared with the previous year but such increase as took place was mainly in the sales tax and the taxes on cheques, transportation, etc. To some extent this reflects the betterment in business conditions during the latter part of 1933 and the early months of 1934. Customs and Excise duties which are two of the main items of receipts showed a further decline from the low levels of the previous year. Sales taxes and other excise taxes, on the other hand, show increases.

Total receipts from taxation for the year 1933-34 amounted to \$271,-851,000 as compared with \$254,320,000 in the previous year, \$275,053,000 in 1931-32 and \$296,276,000 for 1930-31. Summary figures of receipts and expenditures follow:--

Summary of Total Receipts, fiscal years 1931-34

Item	1930-31	1931-32	1932-33	1933-34
	\$000	\$000	\$000	\$000
Customs Import Duties	131,209	104, 133	70.073	66,305
Excise Duties	57,747	48,655	37,834	35,494
War Tax Revenue— Banks. Trust and Loan Co's. Insurance Co's. Business Profits. Income Tax. Sales Tax. Tax on cheques, transportation tax, etc Totals, Receipts from Taxation. Non-tax Revenues.	1,429 -74 34 71,048 20,153 14,582 296,276 53,311	1,390 12 3 61,254 42,393 17,213 275,053 54,656	1,328 826 62,067 57,978 24,214 254,320 52,317	1,336 742 61,399 61,391 45,184 271,851 52,211
Total Consolidated Fund Receipts	349,587 6,574	329,709 7,012	306,637 4,489	324,062 409
Grand Totals	356,161	336,721	311,126	324,471

Summary of Total Expenditures, fiscal years 1931-34

Item	1930-31	1931-32	1932-33	1933-34
Ordinary Expenditure. Capital Expenditure. Special Expenditure Loans and Advances (Non-active) Grand Totals	28 222	\$000 375,403 16,980 55,460 1 3,113 450,956	\$000 358,528 8,548 96,784 ² 67,901 531,761	\$000 346,648 6,490 101,7343 3,096 457,968

¹Includes \$38,296,000 for unemployment relief.

²Includes \$53,423,000 income deficit of the Canadian National Railways incurred in the calendar year 1932, and \$36,721,000 for unemployment relief.

*Includes \$58,955,000 income deficit of the Canadian National Railways incurred in the

calendar year 1933 and \$35,898,000 for unemployment relief.

It will be seen from the above tables that, for the fiscal year ended 1934, total receipts of \$324,471,000 compare with total expenditures of \$457.968,000 (including an income deficit of \$58,955,000 of the Canadian National Railways and \$35,898,000 for unemployment relief). Thus the deficit for that year was \$133,497,000, which compares with a deficit of \$220,635,000 for the fiscal year ended 1933, a deficit of \$114,235,000 for the year ended 1932 and a deficit of \$83,848,000 for 1931. However, of the 1934 deficit only \$22,586,000 represented increase of debt due to ordinary account during the fiscal year. This compares with \$51,891,000 for the previous year.

Changes in Taxation in 1934.—In the Budget of March, 1934, the tax changes proposed were of limited character. The chief changes were the reduction of the excise tax on sugar by 1 cent per pound and the imposition of a tax of 10 p.c on gold, such tax to be deducted from the proceeds of all gold deposited at the Mint for sale and intended to replace the revenue lost by the tax on sugar. It was pointed out that the recent prosperity of the gold-mining industry was due largely to circumstances entirely external to the industry, viz., an increase in the selling price of gold by about 70 p.c. as a result of the chaotic condition of world currencies, the depreciation of our dollar in foreign exchanges and the revaluation of gold in certain countries, and it was felt there could be no legitimate objection to a tax of the amount stated under all the circumstances prevailing. As finally approved, the legislation provided for a levy of 25 p.c. on the premium value of gold in place of 10 p.c. on the total value, and it was further provided that the tax should not operate if the amount received by the depositor was less than \$30 per oz. Further, only those mines which have paid dividends continuously since 1933 were made liable to the premium tax on gold, thus relieving from taxation newly developed or low grade properties which have not, until recently, been operating profitably. Placer gold was also exempted. Producers paying the tax were allowed some compensation in income tax adjustment and in exemption from the usual handling charge at the Mint.

Excise duties were changed principally by consolidating the duty of 3 cents per pound on malt and the gallonage tax of $12\frac{1}{2}$ cents on beer into a single excise duty of $7\frac{1}{2}$ cents a pound on malt, the net result being a slight reduction in the rate of taxation to which beer was directly or

indirectly subject, calculated on a gallonage basis.

Reductions under the British preferential customs tariff were made in the case of certain items of major commercial importance, including jute yarns, wide steel plates, salt cake, crude oil not in its natural state, im-

pregnated canvas and yarns of artificial silk.

Numerous chemical commodities of a less important nature were returned to the free list. Duties were imposed under the intermediate or general tariff schedules on pea-nut oil and were increased on certain ferro-alloys. Duties on jute twines were increased under all tariffs.

With respect to all imports under the British preferential tariff, the special excise tax was reduced from three to one and one-half per cent.

Provincial and Municipal Finance

Provincial Finance

Provincial Governments in Canada are in the position, under section 118 of the British North America Act, 1867 (30 and 31 Vict., c. 3), and the British North America Act, 1907 (7 Edw. VII, c. 11), of having a

considerable assured income in subsidies from the Dominion Treasury. In addition, through the ownership of their lands, minerals and other natural resources, the provinces are in a position to raise considerable revenues through land sales, sales of timber, mining royalties, leases of waterpowers, etc. Further, under section 92 of the British North America Act, Provincial Legislatures are given authority to impose direct taxation within the province for provincial purposes and to borrow money on the sole credit of the province.

Among the chief methods of taxation to be employed has been the taxation of corporations and estates. Prominent among the objects of increased expenditure are education, public buildings, public works (especially roads and highways), labour protection, charities, hospitals and

places of correction.

The Growth of Provincial Taxation.—Whereas in earlier years the Dominion subsidies, together with the revenues arising out of the natural resources of the provinces and from fees for specific services rendered to the citizens, nearly sufficed to cover the whole expense of government and rendered a resort to taxation for provincial purposes practically unnecessary in most of the provinces, the great increase in the functions of government since the commencement of the present century has put an end to this state of affairs. Ordinary provincial taxation (covering taxation of corporations, lands, succession duties and amusements) has increased from \$12,575,159 in 1916 to \$42,593,417 in 1929, to \$51,621,242 in 1930, but there was a reduction to \$48,738,796 in 1931. In addition to this ordinary taxation, provincial revenues have been augmented by the control of the liquor traffic, the issuance of licences and permits for motor vehicles and by the imposition of taxes on gasolene sales. In recent years the revenues collected from these sources alone have far exceeded those from ordinary taxation, the figures being: Liquor traffic control, 1929, \$27,599,687; 1930, \$33,248,056; 1931, \$32,128,693. Motor vehicles (including licences and permits), 1929, \$21,735,827; 1930, \$20,321,307; 1931, \$19,952,575. Gasolene tax, 1929, \$17,237,017; 1930, \$20,956,590; 1931, \$23,859,067.

The increasing use of automobiles for both commercial purposes and pleasure is clearly demonstrated by the revenue figures for motor vehicles and gasolene taxes shown above. The fact that the gasolene tax revenue increased in 1931 whereas the figures for motor vehicle licences and permits showed a decline from the previous year, is not altogether attributable to a greater average mileage run per car but largely to an increased use of the gasolene tax as a source of provincial revenue.

The provincial revenues from the liquor traffic have increased considerably of late years. The adoption of government control of the sale of liquor in all but one of the provinces, has resulted in trading profits, licensing revenues, and permit fees, all of which have swelled the provincial revenues. Prior to the adoption of government control such revenues were not available to the provinces.

Bonded Indebtedness of the Provinces.—The bonded indebtedness of the provinces amounts to about four-fifths of their total direct liabilities. In recent years, the aggregate bonded indebtedness of the provinces has steadily increased. The total for the nine provinces was \$704,225,134 in 1925, \$708,677,426 in 1926, \$742,388,684 in 1927, \$769,260,373 in 1928, \$817,940,202 in 1929, \$919,142,905 in 1930, \$1,016,647,165 in 1931, \$1,148,323,084 in 1932 and \$1,224,372,822 in 1933. This bonded indebtedness for 1933 was divided by provinces as follows: P.E.I., \$3,754,000; N.S.,

\$66,439,880; N.B., \$61,935,163; Que., \$110,237,892; Ont., \$522,687,344; Man., \$99,938,906; Sask., \$109,209,641; Alta., \$133,837,260; B.C., \$125,332,736. The development of the principle of public ownership is largely responsible for the high bonded indebtedness in certain provinces, particularly in Ontario where the hydro-electric system and the provincially-owned Temiskaming and Northern Ontario Railway largely account for the bonded indebtedness of the province. The larger of these public utilities, the hydro-electric system is, however, meeting from its revenues the interest on the indebtedness incurred in its construction.

The expansion in the ordinary revenues and expenditures and the increases in direct liabilities of all Provincial Governments are shown for the years 1873-1933 and of individual provinces for 1933 below:—

Aggregate Provincial Revenues and Expenditures, 1873-1933, and by Provinces, 1933

Fiscal Year Ended—	Ordinary Revenue	Ordinary Expenditure	Direct Liabilities
	\$	\$	\$
1873 1881 1891 1901 1901 1911 1921 1926 1928 1929 1930 1931 1932 Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	6,960,922 7,858,698 10,693,815 14,074,991 40,706,948 102,930,458 146,450,904 168,109,505 183,598,024 188,154,910 179,143,480 168,227,898 158,871,601 1,263,064 7,226,911 5,176,468 31,023,890 51,373,052 12,366,918 14,834,888 15,426,265 20,180,145	6,868,884 8,119,701 11,628,353 14,146,059 38,144,511 102,569,515 144,183,178 165,538,910 177,542,192 184,804,202 183,667,116 173,292,540 1,392,540 1,392,540 1,392,540 1,391,525 5,605,985 37,864,798 50,896,626 14,311,483 15,413,525 17,533,786 21,832,208	

¹Funded debt, temporary loans and deposits only.

Municipal Finance

Under the provisions of the British North America Act, the municipalities are the creations of the Provincial Governments. Their organization and their powers differ in different provinces, but almost everywhere they have very considerable powers of local self-government. If we include the local government districts of Saskatchewan and Alberta, there are over 4,280 municipal governments in Canada. These 4,280 municipal governments have together probably 20,000 members described as mayors, reeves, controllers, councillors, etc., the experience training them for the wider duties of public life in the Dominion and in the provinces. Certain of the larger municipalities, indeed, are larger spenders of public money than are some of the provinces.

The cost of municipal government, like the cost of provincial and Dominion government, has greatly increased since the pre-war period, principally due to the increased services demanded from municipal bodies. Among such public services which play a large part in municipal expendi-

tures may be mentioned education, roads and highways, sanitation, fire and police protection, and charities and social relief. Thus the aggregate taxes imposed by the municipalities of Ontario increased from \$34,231,214 in 1913 to \$126,835,014 in 1932. In Quebec the aggregate ordinary expenditures of the municipalities increased from \$19,478,740 in 1914 to \$37,323,026 in 1932. In Manitoba, again, municipal taxation has increased from \$9,449,000 in 1914 to \$20,598,300 in 1932, in Saskatchewan from \$13,359,000 in 1914 to \$24,388,477 in 1932, in Alberta from \$8,598,000 in 1915 to \$15,453,640 in 1932, and in British Columbia the tax receipts amounted to \$8,698,820 in 1914, while the tax levy amounted to \$20,710,926 in 1932. The tax receipts of the municipalities of Nova Scotia were \$6,440,471 in 1932 as compared with \$3,443,681 as recently as 1919.

Municipal System of Taxation.—Throughout the Dominion, the chief basis of municipal tax revenue is the real estate within the limits of the municipalities; though in certain provinces personal property, income, and business carried on are also taxed. General taxes are normally assessed at the rate of so many mills on the dollar of the assessed valuations. In the Prairie Provinces the values of improvements made to real property are often rated at a very low figure, e.g., in Saskatchewan, where the taxable valuations of buildings are about 12 p.c. of the taxable valuations of lands, and in Alberta, where they are about 28 p.c. of the taxable valuations of lands. Land valuations in the West, which in earlier years were somewhat inflated, have of late been assessed on a sounder basis, and in some provinces the Equalization Boards have placed a more equitable valuation on lands as among the various rural municipalities.

The period of depression was responsible for a very considerable delinquency in tax payments, while the heavy and increasing burden of unemployment relief since 1930, which has been carried by the municipalities with help from the Provincial and Dominion Governments, has caused many of them to search for increased revenues in all possible directions. In some cases the general municipal rates have been increased, in others the water rates have been advanced and the various forms of municipal licensing have been called upon to contribute in increasing measure during the

emergency.

Bonded Indebtedness of Municipalities.—Like other Canadian governing bodies, the municipalities of the greater part of Canada borrowed rather too freely during the years between 1917 and 1930. The bonded indebtedness of Ontario municipalities rose from \$153,568,409 in 1913 to \$504,755,977 in 1932, while that of Quebec municipalities increased from \$173,720,141 in 1915 to \$463,891,860 in 1932, and a proportionate increase took place in other provinces. There was an increase for 1932 over 1931 for the municipalities in each of the provinces except Alberta and British Columbia. Total bonded indebtedness for all municipalities throughout Canada equalled \$1,385,070,941 for 1932 as compared with \$1,341,887,071 in 1931. British Columbia ranks third after Ontario and Quebec with \$129,-332,791, and these three provinces have about 79 p.c. of the municipal bonded debt of Canada.

CHAPTER XVI

CURRENCY AND BANKING—INSURANCE—LOAN AND TRUST COMPANIES—MISCELLANEOUS

Currency

Currency.—Early trade in Canada was carried on by barter. Beads, blankets, beaver and other furs, tobacco and wheat have been at various times used for currency. Further, under the French régime playing cards stamped with a value and redeemable yearly on the receipt of bills of exchange on Paris, came into circulation. In the early years of the British period, the Spanish dollar and the English shilling were the chief mediums of exchange, together with such paper money as the army bills issued by the Government for supplies during the War of 1812. In 1853



Courtesy, Canadian Government Motion Picture Bureau.

a measure was passed providing for the adoption of decimal currency with a dollar equivalent to the American dollar, and from January 1, 1858, the accounts of the Province of Canada were kept in terms of dollars. The use of the dollar as a monetary unit was extended throughout the Dominion by the Uniform Currency Act of 1871.

The Canadian gold dollar weighs 25.8 grains, nine-tenths fine gold, and thus contains 23.22 grains of gold. Five-dollar and ten-dollar Canadian gold pieces have been coined at the Royal Canadian Mint, 1 at Ottawa, to a limited extent but, in the main, the currency of Canada is in the form of silver, nickel and bronze token currency for fractional parts of a dollar and Dominion notes and bank notes for multiples of a dollar.

Dominion Notes.-Under the Dominion Notes Act, as amended in 1934, the Dominion Government is authorized to issue notes up to \$120,000,000 against a gold reserve of \$30,000,000. In 1915 (Chap. 4) the Government was authorized to issue notes up to \$26,000,000 against \$16-000,000 of specified securities guaranteed by the Government but without any gold reserve. Notes may be issued to any amount above this total of \$146,000,000, but ordinarily an amount of gold equal to the excess must be held. Canadian gold reserves consist of a combination of bullion, Canadian, United Kingdom and United States coin. In addition to the notes issued with gold reserve or against specified securities, Dominion notes may be issued under the Finance Act to the chartered banks on pledge of certain approved securities with the Department of Finance. The issue of Dominion notes in one-dollar, two-dollar, five-dollar and fractional units, also in larger notes of from fifty to five thousand dollars (and in late years fifty thousand dollars) increased very rapidly during the war period, reaching a maximum in June, 1919, when notes to the amount of \$300,750,000 were in circulation. There has since been a considerable decline corresponding to the reduction in prices, and the notes in circulation at Oct. 31, 1934, were \$210,483,161. About 66 p.c. of these Dominion notes were in the hands of the banks as reserves. Dominion notes are legal tender everywhere in Canada except at the offices which the Government maintains for their redemption. During the war period this redemption was suspended but gold payment was resumed on July 1, 1926. On April 10, 1933, redemption of notes in gold was again suspended. When the Bank of Canada commences business the Dominion Notes Act, Chap. 4, 1915, and the Finance Act will be repealed.

After the sympathetic decline of the Canadian dollar on the gold exchanges, following the suspension of gold payment by the United Kingdom on September 21, 1931, the Government permitted the export of gold only under licences issued by the Department of Finance, thus conserving the gold resources of the nation for meeting external obligations. The effect of this was to cause Canadian mines to dispose of their gold through the Royal Canadian Mint and conditions of purchase had to be laid down. At present these conditions of purchase are: Such deposits of newly mined gold containing not less than 50 ounces fine are paid for, on completion of assay, at the market price of gold in the country to which the Government is at the time of the receipt of the deposit exporting gold, converted into the Canadian equivalent at the average rate of exchange between Canada and such country for the week in which the gold is deposited with the Mint. The average rate of exchange for this

¹The administration of the Mint, formerly known as the Canadian Branch of the Royal Mint, was taken over by the Canadian Government, as from Dec. 1, 1931.

purpose shall be based on the buying rates for such exchange reported to the Department of Finance at 11.00 a.m. daily. A deduction of 35 cents per ounce fine is made as a handling charge. Provision is also made for receiving deposits of less than 50 ounces fine and of scrap and other gold for which the handling charge is \$1 the ounce fine.



Weighing Fine Gold Bars.—Weighing fine gold bars at the Royal Canadian Mint, Ottawa.—The bars have an approximate value of \$10,000 each and there is about \$1,000,000 worth of gold on the three trucks in the foreground of the picture.

Courtesy, Dept. of Finance, Ottawa.

Bank Notes.—Canadians early became accustomed to the free circulation of paper money, and practically all Canadian banks at their beginning have made the issue of bank notes their chief means of earning profits.

Under the Bank Act the banks may issue notes of the denominations of \$5 and multiples thereof to the amount of their paid-up capital, but during the period of crop movement an "excess" circulation is permitted to the extent of 15 p.c. of their combined capital and reserve fund, provided the banks pay 5 p.c. interest on such excess circulation. When the Bank of Canada commences business, the maximum amount of notes in circulation of a bank shall not exceed the amount of its paid-up capital. This amount is to be reduced by 5 p.c. per annum for a period of five years from Jan. 1, 1936, and by 10 p.c. for a period of ten years from Jan. 1, 1941. In case of insolvency, bank notes are a first lien on assets and for over forty years no note holder has lost a dollar. In normal times they are not legal tender. The circulation of bank notes has proceeded on somewhat parallel lines with that of Dominion notes, as is shown by the following table:—

Note Circulation, 1870-1934

Year	Dominion Note Circulation (averages for the year)	Bank Note Circulation (averages for the year)	` Year	Dominion Note Circulation (averages for the year)	Bank Note Circulation (averages for the year)
1870. 1880. 1890. 1900. 1910. 1915. 1920.	15,501,360 26,550,465	15, 149, 031 22, 529, 623 32, 834, 511 46, 574, 780 82, 120, 303 105, 137, 092 288, 800, 379	1928 1929 1930 1931 1932 1933 1934 ²	201,171,816 204,381,409 174,616,019 153,079,362 165,878,510 179,217,446 184,736,963	176,716,979 178,291,030 159,341,085 141,969,350 132,165,942 130,362,488 135,002,289

¹ Circulation on June 30. ² Averages for ten months.

Banking

The Canadian Banking System has, in the past, been frequently described as "a decentralized system of relatively large joint stock, commercial and industrial banks, privately owned and managed, but working under a uniform law and subject to the supervision of the Dominion Government, with the banks kept in competition with each other by the power to organize branches freely". Until the recent decision of the Government to establish a Central bank (see p. 151), the Canadian system was quite unlike that existing in England and most European countries, where a strong central bank stands in close relation to the Government Treasury, and unlike that of the United States where a system of regional centralization prevails. The Canadian Banking System is a product of evolution, having grown up gradually with changes made from time to time as experience directed. Its most distinctive feature, the branch bank system, is well adapted to the needs of a country of wide area and small population, especially to the requirements of the grain and cattle trade of the west, since it forms within itself a ready method of shifting funds from one part of the country to another and from one industry to another as the occasion may demand and ensures fairly uniform rates over wide areas. The number of chartered banks which was 36 in 1881, and 34 in 1901, decreased to 25 in 1913, and is now only 10. This lessening of the number of banks has been accompanied by a great increase in the number of branches. In 1868 there were only 123 branch banks in Canada. By 1902 the number had grown to 747, by 1916 to 3,198, and by 1929 to 4,069. At the beginning of 1934 the number had again decreased to 3,198 branches in Canada. From 1867 to October, 1934, the total assets have grown from \$78,000,000 to \$2,921,335,089.

In recent years the banks of Canada have extended their business outside of the country itself and at the beginning of 1934 had among them 152 branches, not including sub-agencies, in foreign countries, mainly in Newfoundland, the British and foreign West Indies, Central and South America, and in the great centres of international finance, London, Paris and New York.

The number of branches, assets, liabilities, loans and deposits of the Canadian chartered banks as at Oct. 31, 1934, by banks, together with totals (yearly averages) for 1900, 1910, 1920, 1930, 1931, 1932, 1933 and 1934 are shown in the following table.

Statistics of Individual Chartered Banks as at Oct. 31, 1934, with totals 1900-34

Bank	Branches in Canada and Abroad ¹	Total Assets	Liabili- ties to Share- holders	Liabili- ties to the		Loans and Dis- counts	De- posits by the Public
	No.	\$ 000,000	\$ 000,000	\$ 000,000	\$ 000,000	\$ 000,000	\$ 000,000
Bank of Montreal. Bank of Nova Scotia Bank of Toronto. Banque Provinciale du Canada. Canadian Bank of Commerce Royal Bank of Canada Dominion Bank Banque Canadienne Nationale. Imperial Bank of Canada. Barclay's Bank (Canada) ² .	553 317 179 136 647 789 133 242 198 4	759 277 116 50 574 748 120 127 136 14	74 36 15 50 55 14 12 15 2	683 239 100 45 520 689 105 114 121 12	757 275 115 50 570 744 119 126 136 14	284 126 61 20 285 403 69 62 77	622 213 89 38 464 616 92 103 107 7
Totals, Oct. 1934	3,319 3,506 3,598 4,876 2,621 ³	2,921 2,831 2,869 3,066 3,237 3,064 1,211 460	278 302 307 307 305 252 179 98	2,628 2,518 2,546 2,742 2,910 2,784 1,019	2,906 2,820 2,853 3,048 3,215 3,036 1,198 454	1,389 1,409 1,583 1,764 2,065 1,935 870 279	2,351 2,237 2,257 2,423 2,517 2,438 910 305

¹As at Jan. 1, 1934. Does not include sub-agencies.

²Barclay's Bank commenced operations in Canada in September, 1929. ⁴Totals are averages from the respective monthly statements, except in the case of the numbers of branches in Canada and abroad which are as at Dec. 31.

The New "Bank of Canada".—Chapter 43 of the Statutes of 1934. "An Act to Incorporate the Bank of Canada", provides for the establishment of a central bank in Canada. The capital of the Bank is \$5,000,000 divided into shares of \$50 par value. These shares were offered for public subscription by the Minister of Finance on September 17, 1934, and were oversubscribed by more than 130 p.c. Applications for shares in excess of seven were scaled down on allotment. Shares of the Bank may be held only by British subjects ordinarily resident in Canada or by corporations controlled by British subjects ordinarily resident in Canada. Directors, officers or clerks of the chartered banks may not hold shares of the Bank.

The bank is authorized to pay cumulative dividends from its profits, after provision for expenses, depreciation and pension funds, at the rate of $4\frac{1}{2}$ p.c. per annum. Surplus profits are to be applied to the rest fund of the Bank or paid into the Consolidated Fund of Canada.

The Bank is empowered to buy and sell securities in the open market; to discount securities and commercial bills; to fix minimum rates at which it will discount; to buy and sell bullion and foreign exchange. The Bank is to become the sole issuer of paper money in Canada; it will, on establishment, assume the liability of the Dominion notes then outstanding. The chartered banks will gradually lose the right to issue bank notes (see p. 149). The Bank may issue notes to any amount so long as it maintains a reserve of gold coin and bullion equal to not less than 25 p.c. of its note and deposit liability in Canada. The reserve in addition to the gold coin and bullion may include silver bullion, foreign exchange,

securities of the United Kingdom and the United States having a maturity not exceeding three months and bills of exchange having a maturity not exceeding ninety days, payable in the United Kingdom, the United States or a gold standard country. Provision is made for the suspension of the 25 p.c. gold reserve requirements by the Governor in Council on the request of the Board of Directors for a period of one year.

The chartered banks are required to maintain a reserve by way of deposit with the Bank and/or Bank of Canada notes of not less than 5 p.c. of their deposit liabilities in Canada.

The Bank will act as the fiscal agent of the Dominion of Canada and may, by agreement, act as banker or fiscal agent for any province. The Bank will not accept deposits from individuals and will thus not compete with the chartered banks in the commercial banking fields.

The Governor of the Bank is to be its chief executive officer, assisted by a Deputy Governor; there is also provision for an Assistant Deputy Governor. These officers, in the first instance, are to be appointed by the Government, subsequent appointments are to be made by the Board of Directors of the Bank, subject to the approval of the Governor in Council.

At the first general meeting of the shareholders, directors shall be elected for terms to run as follows: one until the third annual general meeting, two until the fourth, two until the fifth and two until the sixth annual general meeting. Thereafter, the directors will be elected by the shareholders for terms of five years. Directors must hold at least ten shares of the capital stock of the Bank and must not be employed in a position for which the salary or other remuneration is payable out of public funds. There is also provision made for an executive committee of the Board of Directors consisting of the Governor, Deputy Governor and one member of the Board. The Executive Committee shall be competent to deal with any matter within the competence of the Board, but every decision of the Committee shall be submitted to the Board of Directors at its next meeting.

The Deputy Minister of Finance is an ex-officio member of the Board of Directors and of the Executive Committee, but has not the right to vote.

Bank Clearings and Bank Debits.—Through the clearing houses, inter-bank transactions have been recorded since 1889; they form a valuable indication of the trend of business. Clearings at Montreal, the commercial metropolis of Canada, were \$454 millions in 1889, reached \$1,098. millions in 1902, \$2,088 millions in 1910, \$7,109 millions in 1920, \$8,279 millions in 1929 but dropped to \$3,972 millions for 1932. From this low level a rather substantial recovery to \$4,250 millions was made for 1933. This, however, does not tell the whole story, since numerous transactions between persons who carry their accounts in the same bank are not recorded in bank clearings; also, every amalgamation of banks lessens, in so far, the volume of clearings. Accordingly, a record of cheques debited to accounts at all branches at clearing-house centres was instituted in 1924; between that date and 1929 Montreal bank debits increased from \$7,502 millions to \$15,558 millions, and the grand total of bank debits for Canada from \$27,157 millions to \$46,670 millions. Since 1929 there was a steady decline to the 1932 levels of \$7,136 millions for Montreal and \$25,844 millions for Canada, but for 1933 the movement was again upward being \$7,944 millions for Montreal and \$29,981 millions for Canada.

Bank Clearings and Bank Debits, 1924-33 and, by Months, October 1933 to November, 1934

Year	Exchanges of the Clearing Houses of Chartered Banks in Canada	Bank Debits to Individual Accounts	Year	Exchanges of the Clearing Houses of Chartered Banks in Canada	Bank Debits to Individual Accounts
	\$000,000	\$000,000		\$000,000	\$000,000
1924	1,365	27, 157 28, 126 30, 358 36, 094 43, 477 46, 670 37, 491 31, 586 25, 844 29, 981 2, 823 2, 838 2, 492	1934— January. February. March. April. May. June. July. August. September. October. November. December.	1,020 1,197 1,203 1,536 1,328 1,382 1,291 1,302 1,541	2,597 2,089 2,489 2,536 3,129 2,602 2,767 2,534 2,581 3,410 3,092

Insurance

Life Insurance.—The life insurance business was introduced into Canada by companies from the British Isles and the United States about the middle of the nineteenth century. By 1875 there were at least 26 companies and possibly several more, competing for the available business in Canada, as against 42 active companies registered by the Dominion and a few provincial companies in 1933. Of the 42 companies registered by the Dominion 27 were Canadian, 6 British and 9 foreign.

The development of life insurance in Canada, as in other English-speaking countries at least, has been marked by an increased service to the individual policyholder. The benefits which may now be obtained under a life insurance policy are calculated to meet the needs of the policyholder and of his dependants, whether in event of old age or in event of death or of disability. In 1919 there was introduced what is known as "group insurance", a plan whereby a group of persons, usually employees, are insured by their employer, for a uniform amount or a varying amount determined by a formula, under one policy, generally on the term plan, the employer paying the premium or a substantial part thereof. Each employee usually has the right to obtain an individual policy at ordinary normal rates, without medical examination, on termination of employment.

As a result of the adaptation of life insurance policies to the needs of the public, and of the growing wealth of the community, the increase in the amount of life insurance in force has been remarkable. In 1869 the total life insurance in force in Canada, by Dominion companies, was only \$35,680,000 as compared with \$6,248,000,000 approximately at the end of 1933. This latter figure was equal to \$585 per head of population. In addition there was \$171,000,000 of fraternal insurance in force by Dominion licensees and \$170,000,000 of insurance in force by provincial licensees. Thus the total life insurance in force in the Dominion at the end of 1933 was \$6,589,000,000 approximately. The increase in the premium income from Canadian business of all Dominion registered companies (not including fraternal benefit societies) was from \$90,000,000 in 1920 to \$221,000,000 in 1930 but decreased to \$216,000,000 in 1932 and to \$207,000,000 in 1933

The table below shows the growth of life insurance month by month in recent years. The statistics are not complete but represent approximately 85 p.c. of the total business transacted in Canada.

Sales of Life Insurance in Canada by Months, 1932-34

Note.—The figures in this table are those published by the Hartford Research Bureau except that the totals for Newfoundland, included therein, have been deducted.

Month	1932	1933	1934	Month	1932	1933	1934
January February March April May June	\$000 39,038 40,303 39,499 35,676 33,421 43,656	\$000 30,918 28,533 31,804 31,502 32,647 34,933	\$000 27,726 29,268 32,764 33,013 32,970 32,055	July August. September. October. November. December.	\$000 36,410 30,831 27,638 32,649 37,142 37,614	\$000 32,748 30,657 28,088 34,302 36,768 41,127	\$000 33,538 26,359 25,833 31,074 35,530

Fire Insurance.—Fire insurance in Canada began with the establishment by British fire insurance companies of agencies, usually situated in the sea ports and operated by local merchants. The oldest existing agency of a British company is that of the Phænix Fire Office of London, now the Phænix Assurance Co., Ltd., which commenced business in Montreal in 1804.

The Halifax Fire Insurance Co. is the first purely Canadian company of which any record is obtainable. Founded in 1809 as the Nova Scotia Fire Association, it was chartered in 1819 and operated in the province of Nova Scotia until 1919, when it was granted a Dominion licence.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1933, shows that at that date there were 240 fire insurance companies doing business in Canada under Dominion licences, of which 49 were Canadian, 67 were British and 124 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British and 3 United States. The proportionate increase in the number of British and foreign companies from 59 to 79 p.c. of the total number is a very marked point of difference between the fire and life insurance business in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which statistics are available) in the fire insurance in force, is no doubt partly due to the growth of the practice of insurance; but it is also important as an indication of the growth of the value of insurable property in the country, and thus throws light upon the expansion of the national wealth of Canada. By 1880 companies with Dominion licences had fire insurance in force totalling \$411,563,271; by 1900 the one billion dollar mark had about been reached and by 1930 the total stood at \$9,672,997,000. At the end of 1933, besides \$9,008,262,736 of fire insurance in force in companies with Dominion licences, there was also \$1,190,180,426 in force in companies with provincial licences, or about \$10,198,443,162 in force with companies, associations, or underwriters licensed to transact business in Canada.

Miscellaneous Insurance.—Miscellaneous insurance now includes among other classes in Canada: accident, sickness, automobile, burglary, explosion, forgery, credit, guarantee, hail, inland transportation, employers'

liability, aviation, plate glass, sprinkler-leakage, steam boiler, title, tornado, and livestock insurance, etc. Whereas, in 1880, 18 companies were licensed for business of this kind, such insurance was sold in 1933 by 244 companies, of which 50 were Canadian, 62 British and 132 foreign.

The total net premium income for 1933 was \$24,950,651 and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased during the past twenty years, although a decrease has been shown in recent years. As recently as 1910, the premium income of companies doing an automobile insurance business was only \$80,446; in 1915 it was \$636,085, and in 1933 \$11,933,574. The premium income of personal accident insurance came second with \$2,677,423. Combined accident and sickness insurance was third in 1933 with a premium income of \$1,570,384. The premium income of all accident and sickness insurance combined totalled \$7,182,902 in 1933.

Loan and Trust Companies

The principal function of loan companies is the lending of funds on first mortgage security, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies operating under provincial charters, the majority conduct loan, savings and mortgage business, generally in the more prosperous farming communities.

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of \$2,110,403 and deposits of \$577,299. Rapid increases in the number of companies and total volume of business resulted from subsequent legislation. In 1899, 102 companies made returns showing capital stock paid up of \$47,337,544, reserve funds of \$9,923,728 and deposits of \$19,466,676; total liabilities had increased from \$3,233,985 to \$148,143,496 between 1867 and 1899. After slight decreases in the number of loan companies in operation through amalgamations and absorptions, shortly after the turn of the century, further growth was recorded. As a result of the revision of the laws relating to loan and trust companies in 1914, statistics of provincially incorporated loan and trust companies ceased to be collected, but of late years these have made voluntary returns so that all-Canadian totals are again available.

The paid-up capital stock of all loan companies at the end of 1933 was \$52,521,716 (Dominion companies, \$20,230,120 and provincial companies, \$32,291,596); reserve funds, \$42,085,886 (Dominion companies \$15,205,070 and provincial companies \$26,880,816); liabilities to the public \$157,423,445 (Dominion companies, \$101,666,653 and provincial companies, \$55,756,792); and liabilities to shareholders, \$97,949,278 (Dominion companies, \$36,865,775 and provincial companies, \$61,083,503).

Trust companies act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minors or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy. Some companies receive deposits but the lending of actual trust funds is restricted by law.

Trust companies are principally provincial institutions, since their original main functions were connected with probate, which lies within

the sole jurisdiction of the provinces.

The aggregate total assets of the trust companies of Canada at the end of 1933 were \$2,553,694,019 as compared with \$805,000,000 in 1922 (the earliest year for which figures are available). The bulk of these assets (\$2,328,615,120 in 1933) was represented by estates, trusts and agency funds. The assets of Dominion companies in 1933 amounted to \$268,232,277 and of provincial companies to \$2,285,461,742.

Miscellaneous

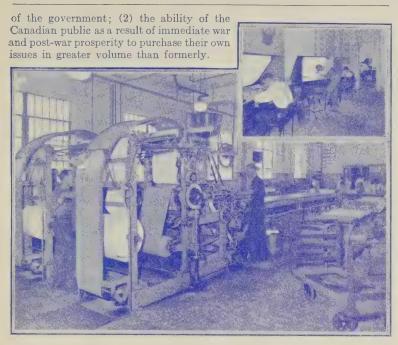
Interest Rates.—There does not exist in Canada as yet a market for money in the same sense as in great financial centres such as London and New York. Nevertheless the trend of money rates in the Dominion can be measured. Since about the beginning of the century the province of Ontario, the wealthiest and most populous of the provinces of the Dominion, has done its financing largely in Canada, hence the fluctuation in the rate of yield of Province of Ontario bonds is an excellent long-term indicator of net interest rates in the Dominion. Fluctuations in the yield of Ontario bonds for the past seven years are shown as follows:—

Yield of Province of Ontario Bonds by Months, 1927-34

Month	1927	1928	1929	1930	1931	1932	1933	1934
January. February March April May June July August September October November December	p.c. 4.65 4.65 4.65 4.56 4.55 4.55 4.55 4.55 4.55 4.55 4.55	p.c. 4·30 4·20 4·25 4·25 4·35 4·40 4·50 4·60 4·60 4·55 4·60	p.c. 4.65 4.70 4.85 4.95 5.00 4.95 4.90 5.00 4.95 4.95 4.95	p.c. 4.90 4.85 4.85 4.85 4.83 4.80 4.60 4.45 4.50 4.50	p.c. 4.55 4.55 4.45 4.40 4.40 4.40 4.40 4.65 4.95 5.05 5.20	p.c. 5.74 5.55 5.30 5.33 5.42 5.48 5.30 4.95 4.95 4.90 4.90	p.c. 4.75 4.73 4.79 4.85 4.70 4.65 4.63 4.55 4.59 4.53 4.66 4.72	P.C. 4.66 4.60 4.32 4.20 4.06 4.09 3.98 3.94 3.93 3.97 3.88

Canadian Bond Financing.—The declining trend in sales of railway and corporation bond issues, so clearly in evidence for 1932, was continued in 1933 when sales under this head were valued at only \$5,385,000. Corporation bond financing accounted for \$4,385,000 of this, so that a mere \$1,000,000 remained for railway issues. Nevertheless, as a result of the large volume of the Dominion Government refunding operations, the total of bond sales during the year was about \$96,000,000 over that of 1932.

Canadian investors purchased over 76 p.c. of the total offerings, although in 1932 the corresponding proportion was 80 p.c. The figures show very strikingly that the United Kingdom is again showing increasing interest in Canadian issues; the London market handled 13·2 p.c. of the 1933 offerings as compared with 10·5 p.c. for the New York—the first time the United Kingdom has exceeded New York in this connection since the War. Since 1914 more than 60 p.c. of the total new issues of Canadian bonds have been sold within Canada. This is attributable to two main reasons: (1) the education of the Canadian public in the investment of funds in government issues, brought about by the War, and the needs



Printing Sheets of Canadian Postage Stamps. Inset: Skilled engravers engraving stamps and securities.

Courtesy, British American Bank Note Company.

Sales of Canadian Bonds, 1926-33

	Class of	Bonds	Dist	tribution of S	ales		
Year	Govern- ment and Municipal	ment and and Cor-		Sold in United States	Sold in the United Kingdom	Total	
	\$	\$	\$	\$	\$	\$	
1926. 1927. 1928. 1929. 1930. 1931. 1932. 1933.	246, 653, 461 232, 537, 614 120, 113, 088 218, 628, 309 409, 652, 063 1,069, 638, 571 450, 067, 632 564, 171, 513	333,479,000 442,530,600 357,573,000 181,182,000 23,050,000	373,637,014 278,080,088 378,395,909 368,868,063 1,090,800,571 377,752,632	223,714,000 159,512,000 263,654,000 393,632,000 155,920,000 81,015,000	16,000,000 19,109,000 4,745,000 4,100,000	602,217,681 453,592,088 661,158,909 767,245,063 1,250,820,571 473,117,632	

Commercial Failures.—The total of commercial failures in Canada for 1934 (ten months) as reported to the Dominion Bureau of Statistics under the provisions of the Bankruptcy and Winding-up Acts was 1,289 as compared with 1,729 for the same ten months in 1933, 1,995 in 1932, 1,807 in 1931, and 1,941 in 1930.

The following tables give, for the above five years, the distribution of failures, by provinces and by industrial and commercial groups:—

Number of Commercial Failures, by Provinces, 1929-34

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1934 ¹ 1933 1932 1931 1930 1929	10 9 7	35 55 62 51 61 71	32 42 80 74 45 61	647 935 968 795 1,011 927	402 730 889 793 776 762	50 67 86 109 113 91	35 59 91 152 146 84	31 88 131 131 152 101	52 58 104 104 95 69	1,289 2,044 2,420 2,216 2,402 2,167

¹ Ten months January to October inclusive.

Number of Commercial Failures, by Groups, 1929-34

Year	Trade	Manu- fac- tures	Agri- cul- ture	Log- ging, Fish- ing	Min- ing	Con- struc- tion	Transportation and Public Utilities	Fin- ance	Ser- vice	Not Classi- fied	Tota
1934 ¹ 1933 1932 1931 1930 1929	674 1,089 1,171 1,107 1,204 1,100	185 357 468 464 488 443	64 92 190 125 115 125	1 9 5 12 4	1 5 6 7 9	53 57 83 61 55 61	17 26 43 42 48 21	12 12 7 21 29 5	185 246 290 255 283 239	95 159 153 134 159 158	1,289 2,044 2,420 2,216 2,402 2,167

¹ Ten months January to October inclusive.

The chief branches of business to be affected by failure are trade, manufacturing, and service and for the first ten months of 1934 these three groups accounted for 81·0 p.c. of all failures. In that period the estimated grand total of assets of all concerns which failed was \$16,796,330 against estimated liabilities of \$20,075,961. Thus, average assets for each failure were \$13,031 against average liabilities of \$15,808.

Comparable figures for the two previous years show that for the same ten months of 1933 there were 1,729 failures, and the estimated total assets were \$23,755,399, against estimated liabilities of \$28,669,253, while in 1932 there were 1,995 failures with total assets of \$32,081,964 and total liabilities of \$34,506,706. Average assets and liabilities for each failure were therefore \$13,739 and \$16,581 for 1933 and \$16,081 and \$17,297 for 1932. From these figures it will be seen that while the average margin between assets and liabilities widened considerably between 1932 and 1933, it has decreased substantially between 1933 and 1934.

The total commercial failures in the ten months of 1934 showed a decrease of 440 or 25·4 p.c. compared with the same months of 1933 and 35·4 compared with the same period of 1932. They were at a lower level in 1934 than they have been for the same ten months in any year since 1922, when the record was commenced, although the number of commercial concerns has increased materially in the interval.

CHAPTER XVII

LABOUR

Dominion Department of Labour.—Accompanying the steady progress of labour organization, Canada has provided, on an increasing scale, for governmental consideration of labour problems. The Dominion Department of Labour was established in 1900. Its duties are to aid in the prevention and settlement of labour disputes, to collect and disseminate information relative to labour conditions, to administer the Government's fair-wages policy and, in general, to deal with problems involving the interests of workers. Under the first mentioned of these functions, the Industrial Disputes Investigation Act, originated in 1907 for the settlement of disputes in mines and public utility industries has attracted favourable comment throughout the world; up to March 31, 1934, 536 threatened disputes had been referred to Boards of Conciliation and Investigation established under its provisions and, in all but 38 cases, open breaks were averted. A monthly Labour Gazette has, since 1900, provided a comprehensive survey of labour conditions in Canada, and is supplemented by various special publications dealing with wages, labour organizations, labour laws, etc. The Department more recently has established the "Employment Service of Canada", which is concerned particularly with problems relating to employment; it also administers the Technical Education Act, the Government Annuities Act, the Old Age Pensions Act and the Combines Investigation Act—the latter being a measure aimed at combinations in restraint of trade. In addition, the Department is charged with certain duties arising out of the relations of Canada with the International Labour Organization of the League of Nations. Canada as one of the eight states of "chief industrial importance" has a place on the Governing Body of that organization.

Provincial Departments and Bureaus of Labour.—In several of the provinces likewise, namely, in Nova Scotia, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia, Departments or Bureaus of Labour have been set up. Under these are administered an increasing body of legislation of various kinds ("civil rights" pertaining to the provinces under the B.N.A. Act) in the form of factories, shops and mines Acts, workmen's compensation Acts (most of the provinces having special boards for the administration of the latter legislation), laws for the protection of women and children in industry, mechanics' lien Acts and other legislation for the fixing and safe-guarding of wages. The growth of this body of legislation is one of the most outstanding features of the

social progress of Canada in the present century.

The Labour Movement

In Canada, trade unionism has been an outgrowth of the last half century, resulting from the increase in urban population and the development of a diversified industrial life. The majority of our local trade unions are branches of international craft organizations which usually have their headquarters in the United States, but in recent years there has been in evidence a movement for the establishment of national unions; prominent among these are the Canadian central labour organizations and the National Catholic Unions.

During 1933, there were in existence in Canada 1,807 international locals having 167,719 members, and 900 non-international unions with a membership of 118,501. The total number of organized workers reported to the Department of Labour was therefore 286,220, compared with 283,576 in 1932. The oldest federated labour organization in the Dominion is the Trades and Labour Congress, established in 1873, which is the recognized head of the internationally organized workers in Canada and their representative in dealing with legislative matters. The All-Canadian Congress of Labour came into existence at a meeting of national union representatives held in Montreal in 1927. The object of the Congress is to promote the interests of its affiliated organizations and to strive to improve the economic and social conditions of the workers. The National Catholic Union movement in Canada dates from 1901, when it had its inception in Quebec city. Subsequently, other national Catholic Unions were formed in the province of Quebec.

With the growth of the National Catholic Union movement in Canada, which has been steady, there developed the desire for a central organization to direct and co-ordinate the activities of the various units, which resulted, during 1921, in the formation of the Federation of Catholic Workers of Canada. The plan of organization adopted is similar to the non-sectarian trade unions. Although this movement was originally designed exclusively for Roman Catholics, provision has been made for the admission of non-Catholics as associate members who may vote, but can-

not hold office.

Industrial Disputes.—During 1933 the loss to industry and to workers through strikes and lock-outs was greater than in 1932 or 1931 and the number of workers involved was also greater. There were 125 disputes, involving 26,558 workers and a time loss of 317,547 working days, compared with 116 disputes involving 23,390 workers and 255,000 working days in 1932. The minimum loss in working days since the record was commenced in 1901 was in 1930, when 91,797 working days were lost in 67 disputes involving 13,768 workers. The maximum loss was in 1919, when 336 disputes involved 148,915 workers and caused a time loss of 3,400,942

working days.

Labour in Politics.—The proposal that labour take independent political action to secure direct representation in the legislatures of the country was first proposed in 1887, when the Trades and Labour Congress of Canada, at a meeting in Hamilton, Ontario, adopted a resolution to this effect. Labour members were occasionally elected to the provincial and the Dominion Parliaments, but in spite of much discussion on the matter, no definite policy was followed by labour for some years. The executive council of the Trades and Labour Congress therefore suggested, at the 1917 convention, that a labour party should be organized along the lines of the British party. This proposal was adopted, and in 1921, the Canadian Labour Party was formed in Winnipeg. For a few years, the party endeavoured to co-ordinate the various labour political parties, but after 1927 the main organization ceased to function, although two sections, those in Quebec and Alberta, are still in existence. British Columbia, Manitoba and Ontario have Independent Labour Parties, while in some of the other provinces, there are labour political organizations operating under different names.

On Aug. 1, 1932, the Co-operative Commonwealth Federation was brought into existence at a meeting in Calgary, Alta., of delegates said to represent labour, farmer and socialist groups in five provinces—Ontario,

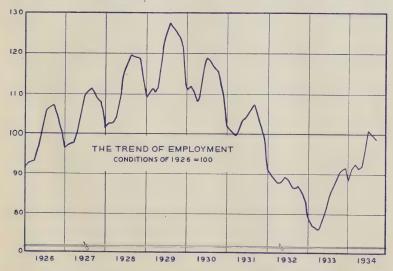
Manitoba, Saskatchewan, Alberta and British Columbia. Among the stated purposes of the new body is the establishment in the Dominion of a co-operative commonwealth by which production, distribution and exchange would be regulated to supply human needs and not for profit, and the taking over by the State of the public utilities and major industries. In the subsequent provincial elections in British Columbia, Nova Scotia, Ontario and Saskatchewan, the Federation placed candidates in the field and were successful in electing one or more candidates to the various legislatures, with the exception of that of Nova Scotia, in which province all its candidates were defeated.

There are, at the present time, four representatives of labour in the Dominion Parliament and ten in the provincial legislatures, as follows: Alberta, 4; British Columbia, 1; and Manitoba, 5. In the Ontario provincial election held June 19, 1934, Mr. E. H. Hutchison was elected as a labour candidate, but later resigned his seat, to which the Hon. Peter Heenan, Minister of Lands and Forests, has since been elected.

The present Dominion Minister of Labour is the Hon. Wesley A. Gordon, under whose administration the unemployment relief measures of the Government are being carried out. (See pp. 164-7.)

Employment, 1933 and 1934

In order to measure the current changes in the volume of employment afforded, the Government has, since 1920, maintained a record of the number of persons on the payrolls of firms employing 15 persons and over, in all lines of industry except agriculture, fishing, hunting, professional and highly specialized business, such as banking, insurance, etc. The trend of employment in the last nine years is illustrated in the chart.



The Dominion Bureau of Statistics, during the twelve months of 1934, tabulated data from an average of 8,690 firms whose labour forces averaged 893,653, this compared with a monthly average of 768,628 reported by the 84490—11

8,138 employers co-operating in 1933. The average index number of employment, calculated on the 1926 average as 100, rose from 83·4 in the period Jan. 1-Dec. 1, 1933, to 96·0 in the same months of 1934, or by 15·1 p.c.; the annual averages in the preceding four years were: 1932, 87·5; 1931, 102·5; 1930, 113·4; 1929, 119·0.

The improvement indicated in 1934 over 1933 and 1932 was quite generally distributed both geographically and industrially. The program of public works undertaken for the relief of unemployment continued an important factor in the situation, particularly in the construction group, but other industrial divisions, only indirectly affected by such stimulation, also recorded important recovery. (A brief description of unemployment relief legislation during 1934 is given at pp. 164-7.)

Index Numbers of Employment as Reported by Employers, by Economic Areas, as at the first of each month, November, 1933, to December, 1934, with Yearly Averages since 1921.

Note.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated economic area to the total reported by all employers making returns in Canada on December 1, 1934.

Year and Month	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
1921—Averages 1922—Averages 1923—Averages 1924—Averages 1925—Averages 1926—Averages 1928—Averages 1929—Averages 1939—Averages 1931—Averages 1931—Averages 1932—Averages	102 · 4 97 · 3 105 · 7 96 · 6 97 · 0 99 · 4 103 · 7 106 · 6 114 · 8 118 · 3 108 · 1 92 · 2	82·2 81·4 90·7 91·3 91·7 99·4 104·0 108·3 113·4 110·3 85·5	90·6 92·8 99·5 95·8 99·6 105·6 113·5 123·1 114·6 101·2 88·7	94·0 92·6 94·8 92·1 92·0 99·5 105·3 117·9 126·3 117·1 111·5	81 · 1 82 · 8 87 · 4 89 · 4 93 · 7 100 · 2 101 · 1 106 · 4 111 · 5 107 · 9 95 · 5 80 · 5	88 · 8 89 · 0 95 · 8 93 · 4 93 · 6 104 · 6 111 · 6 119 · 0 113 · 4 102 · 5 87 · 5
Nov. 1 Dec. 1 Averages, 12 mos	$ \begin{array}{c c} 90 \cdot 2 \\ 93 \cdot 4 \\ 85 \cdot 3 \end{array} $	$ \begin{array}{c} 92 \cdot 2 \\ 92 \cdot 4 \\ 82 \cdot 0 \end{array} $	91·4 93·3 84·2	94·6 89·3 86·2	84·0 85·4 78·0	91·3 91·8 83·4
1934 — Jan. 1. Feb. 1. Mar. 1. April 1. May 1. June 1. July 1. Aug. 1. Sept. 1. Oct. 1. Nov. 1. Dec. 1. Averages, 12 mos Relative Weight by	97·0 101·3 103·2 95·1 98·3 98·4 100·4 101·3 101·8 103·1 104·9 106·9 101·0	86·3 88·5 89·1 85·1 85·5 90·9 94·1 94·9 95·4 96·0 98·0 96·4 91·7	91·2 95·3 97·8 98·7 98·5 104·4 109·9 106·0 103·3 104·8 103·6 101·9 101·3	86·4 84·7 83·8 83·3 85·4 89·5 94·1 93·0 92·9 95·7 96·5 94·3 90·6	80·4 84·1 85·6 86·6 88·4 89·1 97·6 96·2 95·4 94·1 92·9 99· 4	88 · 6 91 · 4 92 · 7 91 · 3 92 · 0 96 · 6 101 · 0 99 · 9 98 · 8 100 · 0 100 · 2 98 · 9 95 · 0
at Dec. 1, 1934	8.2	28.5	42.2	12.8	8.3	100 · (

¹ The average for the calendar year 1926, including figures up to Dec. 31. 1926, being the base used in computing these indexes, the average index here given for the 12 months Jan. 1-Dec. 1, 1926, generally shows a slight variation from 100.

Employment by Economic Areas.—The recent trends of employment in the five economic areas are shown in the accompanying table. While activity was considerably greater in each of these areas during 1934 than in 1933, the most pronounced improvement was in Ontario, where the index on July 1, 1934, at 109·9, reached its highest point in any month since 1930.

Employment in Leading Cities.—Separate statistics are tabulated monthly for eight of the principal industrial centres, viz., Montreal, Quebec, Toronto, Ottawa, Hamilton, Windsor and the adjacent Border Cities, Winnipeg, and Vancouver. Employment in these cities showed less marked recovery than was evident in the Dominion as a whole, but the situation, nevertheless, was generally better in most of the above during 1934 than in 1933.

Employment by Industries.—The volume of employment was greater in practically all industries during 1934 than in the preceding year, the exception being communications, where the index averaged slightly lower than in 1933. The improvement in manufacturing extended to most branches of factory employment; notable increases took place in food, textile, rubber, iron and steel and non-ferrous metals, lumber, pulp and paper and other plants. The recovery in logging has been exceedingly marked, bush operations showing greater activity than in any other year of the record except 1929. Mining recorded pronounced advances, particularly in the metallic ores division. Employment in services and trade was also brisker than in 1933 or 1932. Construction and maintenance continued active, stimulated by the various unemployment relief projects underway throughout the Dominion.

Index Numbers of Employment as Reported by Employers, by Industries, as at the first of each month, November, 1933, to December 1934, with Yearly Averages since 1921.

		1							
Year and Month	, Manu- factur- ing	Log- ging	Mining	Com- muni- cations	Trans- porta- tion	Con- struc- tion and Main- tenance	Ser- vice	Trade	All Indus- tries
1921—Averages 1922—Averages 1923—Averages 1924—Averages 1925—Averages 1926—Averages 1927—Averages 1928—Averages 1930—Averages 1931—Averages 1931—Averages	87.7 88.3 96.6 92.4 93.0 99.6 103.4 110.1 117.1 108.9 95.3 84.4	103·0 85·1 114·2 116·7 105·4 99·5 109·3 114·5 125·8 108·0 60·1 42·6	98.0 99.5 106.2 105.3 99.8 99.7 107.0 114.4 120.1 117.8 107.7 99.2	90·2 86·4 87·6 93·7 95·5 99·6 103·8 108·2 120·6 119·8 104·7 93·5	94·1 97·8 100·3 99·1 96·6 99·7 102·5 105·9 109·7 104·6 95·8 84·7	71·1 76·7 80·9 80·3 84·9 99·2 109·0 118·8 129·7 129·8 131·4 86·0	83.6 81.9 87.9 93.8 95.4 99.5 106.2 118.1 130.3 131.6 124.7 113.6	92.7 90.8 92.1 92.5 95.1 99.2 107.4 116.1 126.2 127.7 123.6 116.1	88·8 89·0 95·8 93·4 93·6 104·6 111·6 119·0 113·4 102·5 87·5
1933— Nov. 1 Dec. 1 Avirages— 12 months	86·5 84·4 80·9	110·3 166·5	109·7 105·5	81·1 81·0 83·9	81·4 79·8	94·6 94·6	107·9 108·8	115·6 119·1	91·3 91·8
Jan. 1. Feb. 1 Mar. 1 April 1 June 1 July 1	80·0 84·2 86·5 88·1 90·2 93·2 93·8	168·8 174·0 153·3 104·9 80·5 75·0	106·8 109·4 108·9 103·3 103·6 106·2	78·4 76·8 76·7 76·8 76·9 78·0	79·0 76·3 76·2 78·0 75·9 78·5 80·3	74·6 88·1 98·0 100·8 95·8 95·8 116·7	106·7 109·8 108·7 109·3 111·8 111·7 115·4	112·1 122·3 111·6 112·5 116·1 115·6 116·5	83·4 88·6 91·4 92·7 91·3 92·0 96·6
Aug. 1. Sept. 1. Oct. 1. Nov. 1. Dec. 1. Averages— 12 months.	93.8 94.2 94.3 94.4 92.8 91.3	86·3 84·5 85·6 113·4 171·9 198·6	107·0 110·3 112·4 117·9 121·2 122·9	80·1 81·2 82·5 81·3 80·7 79·8	82·6 83·6 83·6 84·8 83·9 80·1	140·6 129·0 118·1 117·0 111·0 102·6	119·7 123·0 125·5 116·2 114·9 115·2	119·1 116·5 117·1 120·0 121·3 126·0	101·0 99·9 98·8 100·0 100·2 98·9
Relative Weight by Industries as at Dec. 1, 1934	49.3	6.0	6.0	2.3	10.2	13.0	2.6	10-6	96.0 100.0

See footnote to table on p. 162; also headnote.

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Unemployment in Trade Unions.—The Department of Labour collects monthly data from trade unions as to the unemployment existing among their members. During the first ten months of 1934, 1,709 of these organizations reported an average membership of 154,755, of whom 28,282 were, on the average, unemployed. This was a percentage of 18.3, compared with 22.6 in the same months of 1933. The situation in nearly all provinces was uniformly better than in the preceding year. The percentages of unemployment as reported by trade unions are shown in the accompanying table for the months October, 1933, to October, 1934, with annual averages since 1925.

Percentages of Unemployment in Trade Unions, by Provinces, 1925-33, and by months, October, 1933, to October, 1934.

Year and Month	N.S. and P.E.I.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
1925—Averages 1926—Averages 1927—Averages 1928—Averages 1920—Averages 1930—Averages 1932—Averages	5·0 7·8 3·7 4·0 4·0 5·4 8·5	3.6 2.1 1.9 1.2 1.6 3.7 9.2 14.4	10·9 6·8 6·8 6·1 7·7 14·0 19·3 26·4	5·5 4·2 4·1 3·5 4·3 10·4 17·2 23·7	5·1 3·6 4·4 4·2 7·1 9·6 15·7 20·0	3·3 3·0 3·2 3·0 5·3 10·6 15·6	8·4 4·9 4·1 4·2 6·4 13·3 19·4 22·6	5.7 5.5 5.1 5.9 11.6 21.6	7·0 5·1 4·9 4·5 5·7 11·1 16·8 22·0
1933— Oct Nov Dec Averages—	12·5 17·1 11·2	9·8 10·7 11·5	25·1 22·8 23·2	20·3 22·1 24·9	19·4 20·4 20·3	13·3 16·1 17·2	16·5 15·0 17·6	21·7 21·3 19·8	19·8 20·4 21·0
12 months 1934— Jan Jan Feb Mar April May June July Aug Sept Oct	16.0 10.7 10.8 9.1 10.9 11.8 11.4 9.9 7.8 7.3 4.7	9.4 9.8 10.7 9.6 8.1 7.3 6.2 6.1 6.6 6.7	25·2 23·1 21·9 22·3 22·3 23·6 22·9 24·1 18·8 21·2 22·2	24·4 24·2 22·5 19·9 18·6 15·9 16·3 17·0 16·7 16·5	20·3 21·2 21·6 21·8 19·5 17·8 17·0 16·1 16·2 14·6 13·9	17.2 17.9 18.3 18.5 15.6 14.2 12.1 9.3 9.6 9.0 9.7	21.7 16.4 17.1 20.3 22.4 24.3 24.8 24.1 18.5 11.0	25.0 21.2 19.9 19.2 18.4 17.2 16.2 20.5 18.1 19.9	22·3 21·2 20·0 19·6 19·1 18·5 18·0 17·9 16·5 16·4
Averages— 10 months	9-7	8-1	22-2	18-4	18.0	13.4	19-4	19.6	18-3

Applications, Vacancies and Placements of the Employment Service of Canada.—In co-operation with the provinces, the Dominion Department of Labour maintains local employment offices in some 65 centres throughout the Dominion. The volume of business transacted in these bureaus is to some extent indicative of current labour conditions. Up to Nov. 30, 1934, 676,621 applications for work and 395,627 vacancies were registered, while the placements effected numbered 375,578; in the same period of 1933 the applicants numbered 612,028, the positions notified as vacant 330,002, and the placements 314,290.

Dominion Unemployment Relief Measures, 1934

At the fifth session of the 17th Parliament, the Relief Act, 1934, which received Royal Assent on April 20, 1934, was enacted.

The administration of the Act was, by order of His Excellency the Governor in Council, vested in the Minister of Labour.

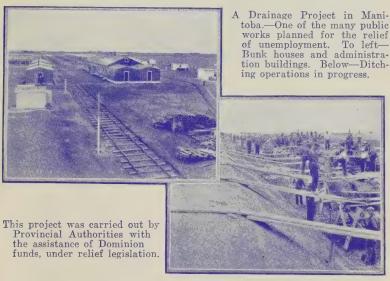
Under this Statute the Dominion continued to contribute on a percentage basis to the direct relief expenditures of the provinces and municipalities to July 31, 1934. The contribution in the case of relief distributed by municipalities was 33\frac{1}{3} p.c., and in the case of relief distributed by the provinces in unorganized districts, 50 p.c.

The Dominion also continued to operate the camps established under the provisions of the Relief Act, 1932, by the Department of National Defence at various points throughout Canada, also the special relief works carried out in the National Parks for the care of single homeless persons

and unemployed residents of the parks.

On July 30, 31 and Aug. 1, 1934, the Premiers of the various provinces or their representatives met at Ottawa, at which time the Dominion announced that after July 31 contributions towards the direct relief expenditures of the provinces on a percentage basis would be replaced by a monthly grant-in-aid in an amount to be determined on the basis of need.

UNEMPLOYMENT RELIEF



Courtesy, Department of Labour, Ottawa.

It was further stated at the conference that the Dominion would, at the request of the provinces, extend the date for completion of any works approved under the Relief Act, 1933, which were not completed on the date of expiration of that Act, namely Mar. 31, 1934, and that any provincial works for the relief of unemployment which the provinces might be desirous of undertaking would be considered by the Dominion on their merits.

Under the provisions of the Relief Act, 1932, agreements were completed with all the provinces except Prince Edward Island, providing for a non-recoverable expenditure of one-third of an amount not to exceed \$600 per family for the purpose of providing a measure of self-sustaining relief to families, who would otherwise be in receipt of direct relief, by placing such families on the land. It was provided that the remaining two-thirds of the expenditure should be contributed by the province and

the municipality concerned. The agreements covered a period of two

years and expired on Mar. 31, 1934.

Under the provisions of the Relief Act, 1934, agreements, effective from April, 1934, to Mar. 31, 1936, providing continuity of settlement with the agreements which expired Mar. 31, 1934, were entered into with all the provinces excepting Prince Edward Island and British Columbia. Provision is made in the new agreements for an additional non-recoverable contribution by the Dominion, on the recommendation of the province and with the approval of the Governor in Council, of one-third of an amount not exceeding \$100 in the case of a settler who may not be self-supporting at the end of the two-year period, and for whom subsistence expenditure during the third year of settlement is deemed necessary. This additional amount for subsistence during the third year where necessary applies both to those settled under the 1932 agreement and those settled under the 1934 agreement.

Reports received from the provinces in regard to the number of settler families and the total number of individuals approved and settled under both the 1932 and 1934 agreements as at Oct. 20, 1934, are as follows:—

Number of Settler Families and Individuals Approved and Settled under the 1932 and the 1934 Relief Acts' Agreements

Province	Settler Families	Total Individuals	Province	Settler Families	Total Individuals
Nova ScotiaQuebec. Ontario. Manitoba.		No. 1,885 4,510 2,416 2,155	SaskatchewanAlberta. British Columbia Totals	No. 846 459 46 3,339	No. 4,163 2,153 257 17,539

Under the Relief Act, 1934, agreements have been entered into with the provinces of Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba and Alberta providing, generally, for monthly grants-in-aid for the eight months Aug. 1, 1934, to Mar. 31, 1935, the provisions of the agreements under the 1933 Act having been, in the main, made operative for the four months April 1, 1934, to July 31, 1934. In addition to the monthly grants-in-aid provision was made for carrying to completion, with Dominion Government assistance, such undertakings covered by the 1933 agreements which had not been completed by Mar. 31, 1934, and which the province concerned requested should be so completed. Provision was also made for continued Dominion assistance to construction on the Trans-Canada Highway.

In the case of Saskatchewan the Dominion has authorized, to date, a "grant-in-aid" of \$200,000 per month, and has made to the province an accountable advance of \$750,000 for special relief in the dried-out areas.

In the case of British Columbia a monthly "grant-in-aid" of \$150,000 has, to date, been authorized by the Dominion, which has also loaned to British Columbia \$1,000,000 to assist the province in its relief works' program.

In the Prairie Provinces the Dominion undertook to again provide for the placement of single homeless unemployed persons on farms and to grant all so placed \$5 each per month. Also, effective from September 1, 1934, to Mar. 31, 1935, the Dominion undertook to pay one-half the net cost to the provinces of:—

(1) Movement of settlers with their effects and live stock from the dried-out areas to suitable locations;

(2) Movement of cattle from dried-out areas to suitable locations;

(3) Movement of feed and fodder into dried-out areas;

and effective from Sept. 12, 1934, until Mar. 31, 1935, the Dominion undertook to pay one-half the net cost of:—

(a) Freight on live cattle shipped under provincial certificate from dried-out areas to stockyards within those provinces where abattoirs were located;

(b) Freight on such tankage and boneless beef from the point of manufacture to the point of marketing;

the province to also pay one-half of said freight charges.

The Dominion moreover undertook to continue its relief camps for single homeless men under the Department of National Defence with the limit set at a personnel of 28,000.

During the season of 1934, the Public Works Construction Act, 1934,

was passed, the preamble to which read, in part, as follows:-

Whereas it is in the national interest that the Dominion of Canada should undertake the construction of certain public works and undertakings for the general advancement of the country and to accelerate recovery to more normal economic conditions; and whereas the construction and execution of the works mentioned in the Schedule hereto will tend to increase employment and reduce expenditures for relief purposes . , .

This Act provided for an appropriation of not more than \$40,000,000 for the construction of federal public works in all nine provinces of the Dominion, the Northwest Territories and Yukon.

The following statement sets forth the Dominion's disbursements

under relief legislation since 1930 to Oct. 20, 1934.

Total Dominion Expenditures under Relief Legislation 1930 to October 20, 1934

(In Thousands of Dollars)

Item	1930 Act	1931 Act	1932 Act	1933 Act	1934 Act to October 20, 1934	Total
	\$	\$	\$	\$	\$	\$
Disbursements to Provinces:-						
P. E. Island Nova Scotia New Brunswick Quebec. Ontario Manitoba Saskatchewan Alberta British Columbia Disbursements through Dominion Government Departments.	57	136 1,084 768 5,485 11,101 3,359 3,008 3,063 3,954 4,537	25 540 222 4,110 7,888 1,739 1,151 1,285 3,227	87 1,036 512 3,220 9,667 2,184 807 1,201 2,578 7,441	21 309 174 1,488 6,260 1,114 689 768 1,732	365 3,805 2,179 17,763 39,608 10,029 7,574 7,605 12,867
Saskatchewan Relief Commission	-	5,373	4,460	1,314	665	11,811
Board of Railway Commissioners,	500 864 882 43	500 209 - 85 72	- - - 67 15	- - - 84 59	42	1,000 1,073 882 322 148
Totals	13,148	42,734	25,776	30,199	16,453	133,304
	f					

Old Age Pensions

The Old Age Pensions Act, 1927.—The Act provides for a Dominion-Provincial system of non-contributory old age pensions in such provinces as have enacted and given effect to special legislation for this purpose. The provinces are charged with the payment of pensions, the Dominion reimbursing each province, quarterly, to the extent of 75 p.c.* of the net cost of its payments on account of old age pensions. The provinces now operating under such agreements are: B.C., Alta., Sask., Man., Ont., N.S., and P.E.I. Old age pensions are also payable in the Northwest Territories. The following table gives the payments under the Act and the numbers of pensioners as at Sept. 30, 1934.

Summary of Old Age Pensions in Canada, as at September 30, 1934, by Provinces, with Effective date of Legislation in each Case

Item	Alta., Aug. 1, 1929	B.C. Sept. 1, 1927	Man. Sept. 1, 1928	N.S. Mar. 1, 1934	P.E.I. July 1, 1933	Ont. Nov. 1, 1929	Sask. May 1, 1928	N.W.T. Jan. 25, 1929	Total
Total numbers of pensioners as at Sept. 30, 1934 Averages of	6,670	8,491	9,766	11,352	1,352	48,457	9,645	5	95,738
monthly pen-	17.80	19.08	18 · 62	13.82	10-61	17-60	16-44	20.00	-
Total amounts of pensions paid			Thous	ANDS OF	DOLLAB	s			
Jan. 1, 1934— Sept. 30, 1934\$ Dominion	1,022	1,414	1,607	1,020	122	6,842	1,398	1	13,426
Government's shares \$ Total amounts of pensions paid since inception	766	1,057	1,205	765	92	5,099	1,048	1	10,033
of Act to Sept. 30, 1934\$ Dominion	4,898	8,963	9,485	1,020	182	42,027	8,697	. 7	75,279
Government's shares\$	3,310	5,697	6,141	765	136	27,570	5,648	7	49,274

In accordance with an agreement consummated between the Dominion and the province of Nova Scotia, the payment of old age pensions commenced in that province on Mar. 1, 1934. While the New Brunswick Legislature at its 1930 Session passed an Old Age Pensions Act to come into force on a date to be fixed by proclamation, the Act has not yet been proclaimed. Authority was given the Gold Commissioner of the Yukon in 1927 to enter into an agreement with the Dominion Government for the purpose of obtaining the benefit of the Old Age Pensions Act, but no scheme has yet been formulated. The Social Insurance Commission created by the Quebec Government submitted its findings on the subject of old age insurance in November, 1932, the majority report declaring "in favour of a contributory and obligatory system".

^{*}The proportion paid by the Dominion as set in the Act of 1927 was one-half, but this was increased at the Second Session of the Seventeenth Parliament to 75 p.c., which increase was made effective from Nov. 1, 1931.

CHAPTER XVIII

EDUCATION

Schools and Universities



New Arts Building, Fort Garry Site, University of Manitoba—One of the two new buildings of the Faculty of Arts and Science, erected on the Agricultural College grounds, a few miles to the south of Winnipeg, since 1930, when it was decided to make this the permanent site of the University.

Courtesy, W. B. H. Teakles, Assistant Registrar,

Manitoha

University of Manitoba.

Public education in Canada, except of the native Indian population. comes under the iurisdiction of provincial legislatures. Eight of the nine provinces have free public school systems covering the elementand secondary stages, and attendance is compulsory for children at certain ages. In Quebec a fee

is normally charged for all children of school age (though in practice no child is excluded through inability to pay the fee) and there is no compulsory attendance law. As the table below shows, only about 5 p.c. of the enrolment below university grade is in schools other than those of the provincial system. Six of the provinces have provincial universities, and the other three have certain colleges of higher education.

Statistics of Education in Canada, 1933

Type of Institution	Number of Institutions	Number of Pupils	Number of Teachers	Expendiature
Provincially-Controlled Schools— (a) Ordinary and technical day schools (b) Evening schools (c) Correspondence courses. (d) Special schools (e) Normal schools	16	2,232,622 66,501 8,926 4,811 8,225	69,751 1,566 150 5001 634	\$ 121,464,641
Privately-Controlled Schools— (a) Ordinary day (b) Business training. Dominion Indian Schools. Universities and Colleges—	860 175 349	87,929 14,862 17,425	5,430 500 6001	5,193,000 (estimated) 1,712,223
(a) Preparatory. (b) University grade. (c) Other.	152	21,701 41,175 25,879	4,800 -	18,551,998
Totals	32,708	2,530,056	84,381	146,921,862

In recent years attention has been directed to the disproportionate increase in attendance at institutions of secondary or higher education as compared with elementary schools. The point has now been reached in several of the provinces where the entire increase is attributable to the more advanced pupils, and elementary enrolment is declining,—a situation that appears likely to last for some time. The decennial census of 1931 was the first in the Dominion to show a smaller number of children under the age of five than in the second youngest five-year group. This situation was revealed in every province, and the record of births since 1931 indicates no change in the trend. Employment conditions, in considerable measure, will determine how long the increase in more advanced pupils will compensate for the decrease in elementary. Statistics for 1933 show that the increase is continuing in secondary schools, but has been halted in univesities and colleges, the difference probably being attributable to the greater cost involved in attending the latter.

Expenditure on schools and colleges has dropped abruptly since 1931. The total in that year, corresponding to the \$146,922,000 shown above for 1933, was \$178,702,000. The records for the school year ended in 1934, though not yet complete, will show a further substantial decline. Besides a reduction of capital expenditures to very small proportions, there has been a decrease of about one-third in the average salaries paid to teachers in several provinces. Reductions have been decidedly more severe in rural schools than in towns and cities. Some communities have reduced the teaching year by a few weeks, by reason of a shortage of funds, but very few schools have been continuously closed for any considerable time. Teachers as a group, through reduced or delayed pay, have undoubtedly borne a heavy part of the sacrifice involved in keeping the schools open, but the complete or partial restoration of salary cuts, for the school year 1934-35 in some places, seems to indicate that their most difficult period is past.

Night classes in the provincial schools, which enjoyed a steady and substantial increase in patronage in the years since the War, have, since 1931, been abandoned or curtailed in many centres. Some municipalities have done this under the compulsion of economizing public funds, while others report a decline in interest among young people when out of employment. Whereas the enrolment was about 90,000 in 1931, in 1933 it had dropped to 66,500, and in 1934 much lower, but current reports indicate the beginning of an opposite tendency for the winter of 1934-35.

Provincially-Controlled Schools.—Courses in the ordinary day schools, except in French-speaking Quebec, extend over eleven or twelve grades, each requiring a year for the average child to complete, and include technical or vocational students as well as those preparing for university matriculation. The first eight grades are generally elementary, the remaining three or four secondary or high school, though there is a growing tendency in several provinces to have the elementary course proper end at the sixth year, and to introduce at this point an intermediate school with a three-year course designed to reveal the kind of further education for which the individual child is suited. A few years ago it was the common practice to have a standard examination for all the pupils of each province at the end of each of the highest four or five grades, but the number of these has been rapidly reduced, placing greater responsibility for promotions on the teachers. It is now even possible in two provinces for a child to obtain university matriculation, or admission to a normal school, without sitting at a single provincial examination.

The organization of the school system of French-speaking Quebec bears more resemblance to those of Western European countries, and less likeness to those of the United States than do the other provincial school systems of Canada. The primary, secondary, and technical schools are separate and distinct groups of institutions, rather than stages or courses in a single institution, as in the other provinces. Nearly half of the female teachers, and more than two-thirds of the male, are in religious orders.

Apart from the ordinary day schools, the provincial departments conduct such special facilities as night schools for adults, special schools for blind, deaf, mentally-defective, and delinquent children. Six of them conduct correspondence courses in the regular school subjects, for children living out of reach of a school. Each department also conducts one or more normal schools for the training of teachers, where the course is generally (except in French-speaking Quebec, and Prince Edward Island) one of a year's duration, to which young people become eligible for admission on completion of the high school years.

Privately-Controlled Schools.—Except in Quebec, where most of them receive government assistance, private schools do not claim as much as 5 p.c. of the school enrolment in any province. A majority of the academic private schools are conducted by religious bodies, though each province has a few undenominational boarding schools, some of which have a long

and distinguished record.

The larger cities have proprietary schools of different kinds, preparing young people for business or the trades. The most numerous group are those giving office or business training. Their enrolments have been re-

duced very noticeably in the difficult years since 1929.

Indian Schools.—Scattered throughout the provinces and territories of the Dominion are 80 residential and 260 non-residential schools for the children of native Indians. They were attended, in 1933, by 17,425 pupils, almost half of whom were in residential schools, in the operation of which the Department of Indian Affairs works in close co-operation with the Roman Catholic, Anglican, United and Presbyterian Churches. The school curriculum of the province in which the Indian school is situated is generally followed, but special emphasis is put on care of the health, language and vocational subjects. Girls are given training in domestic science, boys in agriculture and certain trades, in the residential schools. In 1919, school attendance of all physically fit Indian children between the ages of seven and fifteen was made compulsory and in 1931 the compulsory age limit was raised to sixteen years.

Universities and Colleges.—Canada has 152 institutions providing higher educational facilities. Over 60 of these offer only arts courses, a further 35 are theological colleges, and 15 others confine their instruction to one line of professional training such as agriculture or engineering. Some of these grant degrees but the majority are affiliated to one of the 18 universities which grant more than 95 p.c. of all degrees in the country. In many of the higher educational institutions French is the chief language of instruction, the three largest being the Université de Montréal, Université Laval at Quebec city, and the Université d'Ottawa.

There were 41,175 students of university standard in 1933, and a number more than half as great in the preparatory or high school courses conducted by many of the colleges, especially the Quebec classical colleges. The importance of a third class of work—extension activities—done by the universities is difficult to express numerically. Over 25,000 pupils

THE NATIONAL RESEARCH COUNCIL



The illustration shows: (1) Fractionating equipment in the National Research Council's laboratories, originally designed for the examination of Turner Valley (Alberta) gasolene, showing 50 gallon still with refrigerated condenser and constant temperature recording room. (2) An aircraft model under test in the Wind Tunnel of the National Research Council's aeronautical laboratories. (3) A modification of a Canadian model railway locomotive, developed in the aeronautical laboratories of the National Research Council. (4) Photometry laboratory of the Division of Physics and Engineering, National Research Council's laboratories. (5) Laboratory used for approval testing of oil burners, National Research Council's laboratories. (6) Asbestos Research, showing testing machines in the laboratory, National Research Council.

Courtesy, National Research Council and Canadian Government Motion Picture Bureau. attend evening and Saturday classes, summer schools, and other short courses, but such work extends beyond the walls of the universities to reach hundreds of thousands every year by lectures, radio broadcasts, travelling libraries, lantern slide sets, educative gramophone records, and regular sections in the daily or weekly press.

Public Libraries



Car used for the transportation of books of the Carnegie Demonstration in Prince Edward Island. This is a modern public library service experiment covering the entire province and is financed by the Carnegie Corporation of New York.

Courtesy, Miss Nora Bateson, Charlottetown,
Director of the Demonstration.

Canadian public libraries in 1933 reported a circulation of 22,126,000 books, exclusive of the work in reading and reference rooms. This was an increase of 1,220,000, or 5.8 p.c. since 1931 but it was not well distributed over the libraries. Nearly half of the entire increase was in Toronto Public the Library alone, an illus-tration of the greatly increased demands on libraries; several other city libraries were obliged to

branches, or otherwise restrict their service in view of a financial handicap, and showed a reduction in circulation. The two incompatible tendencies, increased demands and reduced appropriations, were to be found generally. Expenditure for books and periodicals on the whole dropped 17 p.c. to \$421,000.

Most of the provincial "travelling library" systems were unable to replace worn-out books but their services were more in demand than ever before. The Manitoba system was obliged to discontinue work through lack of funds. The Carnegie Demonstration in Prince Edward Island made a good beginning during 1933. The older Carnegie Demonstration in the Fraser Valley of British Columbia is approaching the time when it is expected to become self-supporting.

Public libraries had 1,101,000 borrowers registered at the end of 1933,—about 10 p.c. of the Dominion's total population, or 13 p.c. of the population over 10 years of age. Since the public library is, with few exceptions, an urban institution, it would be more appropriate to say that about 20 p.c. of the urban population are registered as borrowers, but the proportions vary greatly in different provinces due to the varying distributions of their populations as between rural and urban, and the attention that has been given to public library development. In Quebec especially there are few public libraries, but numerous church or parish libraries.

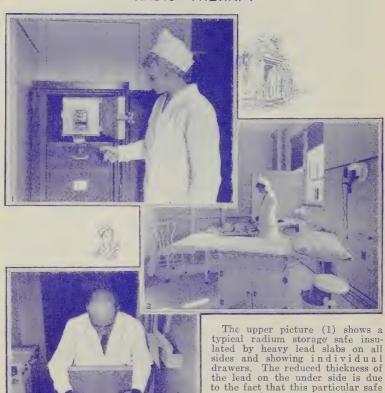
CHAPTER XIX

MISCELLANEOUS STATISTICS

Public Health, Hospitals and Charitable Institutions

In Canada, generally speaking, the administration of public health activities and the establishment and maintenance of such institutions is in the hands of the various provincial governments, under the powers given them in Sec. 92 of the British North America Act of 1867.

RADIO - THERAPY



The upper picture (1) shows a typical radium storage safe insulated by heavy lead slabs on all sides and showing individual drawers. The reduced thickness of the lead on the under side is due to the fact that this particular safe is in the basement of the hospital and the radium rays penetrating downward are absorbed by the earth without danger. (2) A radium work bench for loading radium into portable containers—note the two-inch lead block in front of the operator who looks

down through a window of specially prepared protective glass and whose hands are protected by rubber gloves. (3) Examining room in a tumor clinic.

Courtesy, Ottawa Civic Hospital.

Exercising particular jurisdiction over some phases of the general health of the people of the Dominion is the Department of Pensions and National Health of the Dominion Government, while the Dominion Council of Health acts as a clearing house on many important questions. This Council consists of the Deputy Minister of the Dominion Department of Pensions and National Health as chairman, together with such other persons as may be appointed by the Governor in Council, and who hold office for three years. The public health activities of the Dominion Government include the following divisions: Quarantine, Immigration, Leprosy, Marine Hospitals, Venereal Disease, Child Welfare, Sanitary Engineering, Proprietary or Patent Medicine, Laboratory of Hygiene, Food and Drugs, Hospital Advisory Services.

In classifying the various types of social service in Canada certain broad and well-established groups manifest themselves. These divisions are: (1) Hospitals, Dispensaries and Out-patient Departments; (2) Mental Hospitals and Institutions for the Feeble-minded and Epileptic; (3) Institutions for the Blind, Deaf and Dumb; (4) Homes for Adults and Children; (5) Orphanages, Child-caring Institutions, Day Nurseries and Child-placing Agencies and voluntary organizations. The list of voluntary organizations engaged in some branch of social service is a comprehensive one and covers every variety of social

service.

The most familiar of all public institutions established to administer and foster the general health of the community is the general hospital common to all cities and towns and prosperous rural communities. Where hospitals cannot be maintained in remote districts, Red Cross outposts or rural clinics in charge of district nurses are established. There were in operation on January 1, 1933, 860 of these general hospitals with a total of 54,382 beds, of which 2,805 were in 22 incurable hospitals. On the staffs of all hospitals there were 744 salaried physicians, 733 internes, 5,314 graduate nurses and 9,472 pupil nurses. The number of in-patients treated during 1932 was 625,236 and the collective days' stay of all patients 12,902,586 days. Of 216 out-patient departments 146 reported having treated 710,600 patients. The total receipts as reported by 738 hospitals were \$39,567,359 and total expenditures \$45,297,487.

Second only in importance to the general hospitals are the institutions for mental diseases. The public hospitals for the insane, feeble-minded and epileptic are assisted in their care of indigent patients by provincial and municipal grants. In addition there are county and municipal institutions, federal and psychopathic hospitals and a few private institutions. The sixty mental hospitals have a normal capacity of 33,430 beds. On Jan. 1, 1934, there were present in these institutions, 34,979 inmates. The total receipts for 1933, including government grants and fees from patients, were \$11,395,085 and the total expenditures \$11,315,072.

Homes or hospitals for incurables supply maintenance, nursing, medical and surgical aid to persons suffering from chronic and incurable diseases and the nature of the services given is such as to call for special reference. Many hospitals for incurables care not only for those suffering from incurable diseases but also for the aged, indigent, feeble-minded and epileptic. There are 22 of these institutions in operation. The average number of patients per day during 1932 was 2,342, the bed capacity 2,805 and the total number under treatment 3,167. Total receipts amounted to \$1,016,428 and total expenditures to \$1,099,205.

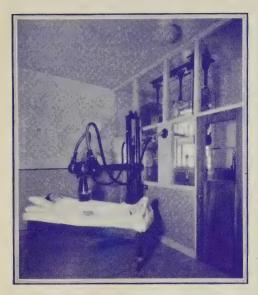
The following table gives the statistics of public health and benevolent institutions in Canada, by provinces, at the beginning of 1933.

Number of Public Health and Benevolent Institutions in Canada, by Provinces, as at January 1, 1933

Grand Totals	10	99	61	251	449	85	124	151	137	10	1,377
Totals, Charitable and Benevolent Institutions	5	44	30	128	180	28	10	9	23	-	457
SocietiesBlind, deaf and dumb	_	2 2	1 -	5	9 2	1	2 -	1 -	1		19 11
and Children's Aid Societies	2	14	4	1	56	4	3	4	3		91
Orphanages Day nurseries Child-placing Agencies	2 -	10	7	41 7	29	13	5 -	3 -	9	_	119 20
Homes for adults Homes for adults and children	1 -	9	8	28	63	3	_	1	3	_	118 79
CHARITABLE AND BENEV- OLENT INSTITUTIONS											440
Totals, All Hospitals.	5	55	31	123	269	57	114	142	114	10	920
Totals, Mental	1	18	1	9	17	4	2	3	5	_	60
Totals, Dominion.		6	4	5	7	3	1	5	4	-	35
Quarantine		2 2 -	2 - 1	2 - -	- 1 -	- 1 -	- 1 -	- 4 -	1 - 1	-	7 2 7 2
Dominion Hospitals:— Pensions	_	1 1	1	1 2	2 4	1 1		1_	1 1	-	8 9
Totals, Private		3	4	23	78	7	26	44	29	-	214
Private Hospitals:— General Maternity Orthopædie Convalescent Tuberculosis Other		2 1 1	4	16 4 - 1 - 2	56 7 - 7 1 7	5 1 1 - -	16 10 - - - -	15 27 - 2 -	16 7 - 6 -	-	130 56 1 16 7
Totals, Public	4	28	22	86	167	43	85	90	76	10	611
Hospitals: General. Women's (only) Pædiatric. Orthopædic. Isolation Convalescent. Tuberculosis Red Cross. Incurable. Other	3	22 2 1 - 1 - 2 -	17 1 3 - 1	57 3 4 1 3 4 7 - 6 1	110 8 2 - 4 1 12 23 7 -	28 1 1 - 2 1 4 5 1	67 2 1 - - 3 10 2 -	77 3 1 - 4 - 1 - 4	69 1 2 - 1 2 1	10	460 21 10 3 14 6 34 40 22
Type of Institution	P.E.I.	N.S	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada

Charitable and benevolent institutions for adults and children include refuges and homes, child-welfare institutions, hospices, houses of refuge, county and municipal homes, poorhouses and houses of industry. The number of adults in such institutions on June 1, 1931, when the census was taken, was 11,750 and the number of children 39,269, making a total of 51,019 under care. No later figures are available.

War Pensions and Welfare of Veterans



Deep X-Ray Machine and Treatment Room in a Modern Hospital.—Great advances are being made in the improvement of X-ray treatment in hospitals. In the equipment shown the electric current is "stepped-up" to 200,000 volts in the rear room before being passed through the tube which is oil-immersed and lead-protected. All connecting cables are completely shock proof and the usual noise is reduced to a minimum so that the patient is scarcely aware that the X-ray photographs are being taken.

Courtesy, Ottawa Civic Hospital.

The Pensions Division of the Department of Pensions and National Health is responsible for certain matters affecting war veterans' welfare. Its chief functions consist in the granting of medical and dental treatment to former members of the Forces who are suffering from disabilities, the result of injury or disease contracted or aggravated during military service. At the same time, many other activities are carried on such as the manufacture of artificial limbs and other prosthetic appliances, the issue of unemployment relief to unemployed pensioners and the operation of Vetcraft Shops.

Ten District Offices are maintained in the following centres: Halifax Saint John, Montreal, Ottawa, Toronto, London, Winnipeg, Regina, Calgary and Vancouver. Sub-District Offices are situated at Quebec, Kingston, Hamilton, Windsor, Fort Arthur, Saskatoon,

Edmonton and Victoria. There is also an overseas office in London, England. Eight hospitals are operated at Halifax, Saint John, Ste. Anne de Bellevue, Toronto, London, Winnipeg, Calgary and Vancouver, respectively. In addition to these institutions, the Department has agreements with many civilian hospitals across Canada and in some cases special wards are set aside for the treatment of its patients. The medical service is conducted by physicians and surgeons on the staff of the Department and outside specialists in various branches of medicine and surgery. No expense is spared to give to the returned soldier the most modern treatment known to medical science. On Mar. 31, 1934, there were 1,576 patients in departmental hospitals, 724 in other institutions in Canada, 71 in Great Britain and 39 in the United States, making a total of 2,410 of whom 69 had served in other than the Canadian Forces during the Great

Among those in departmental institutions are some who have small pensions, but are unable to maintain themselves, owing in many cases to

the presence of non-service disabilities, and who do not require active remedial treatment for their pensionable disabilities. These receive what is known as veterans' care. On Mar. 31, 1934, there were 250 of these men on the strength of the Department.

The issue of unemployment relief to disability pensioners who are out of employment has assumed larger proportions during the latest three years than previously. While the Department has established basic rates for single men and for men with families in accordance with the number of dependent children in respect of whom additional pension is paid, in the larger centres the relief issued to non-pensioners by the municipalities in which they reside is on a higher scale than the applicable basic rate of the Department. In any such case, the Department's policy is to augment the pension by issues of relief covering food, fuel and shelter to an amount not less than issuable to the non-pensioned veterans and other civilians, for these items. The number of men who benefited during the fiscal year 1933-34 was 12,735 and the expenditure amounted to \$1,912,563.

A somewhat unique feature of the departmental activities is in relation to the employment in industry of pensioners in receipt of pension of 25 p.c. and upwards. Should such a pensioner meet with an accident or contract an industrial disease, the Department will reimburse the employer, or the Workmen's Compensation Board dealing with the case, to the extent of the cost incurred.

Canadian Pension Commission.—By legislation in 1933, the duties of the Board of Pension Commissioners for Canada and the Pension Tribunal were merged and a body known as the Canadian Pension Commission was created. The Commission maintains a staff of medical advisers at its head office and medical examiners in the field. It is responsible for the award and adjudication of Great War pensions. Quorums of the Commission sit from time to time in various parts of Canada for the purpose of hearing claims by applicants. On an award being authorized, payment is made by the Comptroller of the Treasury through his representative attached to the Department. Appeals from decisions of the Commission can be carried to the Pension Appeal Court which consists of three members and sits continuously in Ottawa.

The number of pensions in force on Mar. 31, 1934, was 96,091—77,855 of this number being disability and 18,236 dependent pensions. The annual liability in respect of these pensions is \$40,793,425.

In connection with the preparation of claims for submission to the Commission and the Pension Appeal Court, the Department maintains a branch known as the Veterans Bureau which has representatives in all the principal centres in Canada who assist applicants in the preparation and presentation of their claims.

Returned Soldiers' Insurance.—Applications under the Returned Soldiers' Insurance Act were limited to Aug. 31, 1933. After that date no new applications could be received. The number of policies in force on Mar. 31, 1934, was 28,240 representing insurance of \$61,069,009. All claims are dealt with by the members of the Canadian Pension Commission who have been appointed Commissioners under the Returned Soldiers' Insurance Act.

War Veterans' Allowance Committee.—The War Veterans' Allowance Act, which was passed in 1930, has proved of great benefit. It is in charge of a committee which operates independently of the Department, although the Department carries out the decisions of the committee, makes all in-

vestigations required by it, furnishes the necessary staff and maintains the records. Under this legislation, an ex-member of the Forces who is 60 years of age may, if he is a pensioner or saw service in a theatre of actual war, be granted an allowance in an amount depending on his financial circumstances, but not exceeding \$20 per month if single or \$40 per month if married. Payments are made by the Comptroller of the Treasury through his representative. Provision is also made for similar benefits to be afforded to those under 60 years of age who are found to be permanently unemployable. The total number of allowances in force on Mar. 31, 1934, was 5,837, involving an annual liability of \$1,833,283. There are 4.045 recipients of 60 years and over and 1,792 under 60. The average age is 59.76 years. There are 22 recipients of 80 years and over.

There is every indication that the work of the Department will continue for many years to come. The increasing age of the beneficiaries of the Department continues to create new problems both in the medical and in the administrative fields so that the service branches are constantly

called upon to give advice and assistance along various lines.

Judicial Statistics

The collection and publication of criminal statistics was first authorized by an Act of 1876 (39 Vict., c. 13), and the results have been published upon a comparable basis from that time to the present, and are now collected and published by the Dominion Bureau of Statistics under the Statistics Act (8-9 Geo. V, c. 43). It should be remembered that while the criminal code undergoes little change over periods of time, the figures of summary convictions depend very much upon the changes in the customs of the people, and are apt to increase with the increasing urbanization of the population.

Convictions for Criminal Offences, by Groups, and Total Convictions for Minor Offences, years ended Sept. 30, 1921-33, with Proportions to Population

			Crin							
	Offer	nces agair	ıst—	Other						
Year	The Person	Property with Violence	Property without Violence	Felonies and Misde- mean- ours	Crin	Total of ninal Offe	ences	Mir	nor Offen	ces
	No.	No.	No.	No.	No.	P.C. of all of- fences	Per 100,000 pop.	No.	P.C. of all of- fences	Per 100,000 pop.
1921	8,197 7,291 7,550 7,595 7,826 7,799 8,343 9,140 10,392 11,052 11,773 10,327 9,603	2,609 2,783 2,076 2,536 2,749 2,296 2,671 2,991 3,529 4,647 5,288 5,194 5,319	12,059 11,607 11,482 12,790 13,892 14,262 15,154 16,072 17,271 18,498 21,528 20,766 21,575	2,081 2,610 3,075 2,635 2,644 2,679 2,809 3,856 4,001 6,584 5,475 5,510 6,096	24,946 24,291 24,183 25,556 27,111 27,036 28,977 32,059 35,193 40,781 44,064 41,797 42,593	14·2 15·3 15·1 15·3 13·3 13·1 11·6 10·9 11·8 12·0 12·4 12·8	284 271 266 277 289 287 304 332 359 410 424 402 411	152,227 134,049 135,069 141,663 150,672 169,171 191,285 243,123 286,773 304,860 323,024 294,858 290,475	85 · 9 84 · 7 84 · 8 84 · 7 86 · 2 86 · 9 88 · 4 89 · 1 88 · 2 88 · 0 87 · 6	1,731 1,498 1,487 1,535 1,610 1,803 2,009 2,517 2,927 3,068 3,113 2,841 2,799

The most significant column of the above table of total convictions is the figure of criminal offences per 100,000 of population. Attention may be drawn to the increase in the proportion of both criminal offences and minor offences to population in recent years, convictions for criminal offences having risen from 277 per 100,000 population in 1924 to 424 per 100,000 population in 1931 and convictions for minor offences from 1,535 per 100,000 in 1924 to 3,113 per 100,000 in 1931. However, for 1932 and 1933 some improvement was shown in each of these classes. It should be understood that the classification of offences in the table is irrespective of the more technical classification into "indictable" and "non-indictable" offences under the Criminal Code, the object here being to show a broad record of criminal and minor offences respectively since 1921.

Of the total convictions for criminal and minor offences for 1933, viz., 333,068, the sentences imposed were: gaol or fine, 248,177; penitentiary,

2,485; reformatory, 830; death, 24; and other sentences, 81,552.

Death sentences have fluctuated over the past ten years between a minimum of 12 in 1927 and a maximum of 26 in 1929. For 1931 they were 25 and for 1932, 23.

Police

Police statistics are collected by the Bureau of Statistics from cities and towns having populations of 4,000 and over. In 1933 there were 164 such municipalities from which returns were received. The following table gives these statistics by provinces.

	****		Average Number of Stated	Average Number			
Province	Cities and Towns	Popu- lation	Police	Arrests	Sum- monses	Population to each Policeman	of Arrests per Policeman
Prince Edward Island Nova Scotia New Brunswick Quebec. Ontario Manitoba. Saskatchewan Alberta British Columbia.	1 13 6 43 72 7 8 4 10	12,361 176,444 94,005 1,435,170 1,765,865 273,012 149,015 192,747 349,191	8 134 83 1,942 1,841 315 130 195 439	311 4,485 2,693 147,165 27,796 5,147 2,551 3,376 6,924	318 1,711 637 12,691 94,949 14,124 2,291 4,108 4,240	1,545 1,317 1,133 739 959 867 1,146 988 795	39 33 32 76 15 16 20 17 16
Canada	164	4,437,810	5,087	200,448	135,069	873	39

Offences reported to the police numbered 450,611; there were 308,504 prosecutions, resulting in 271,996 convictions. The number of automobiles reported stolen was 7,249 and 7,185 were recovered. The value of other goods stolen was \$2,305,852, and of goods recovered, \$1,008,959.

Royal Canadian Mounted Police.—The Royal Canadian Mounted Police is a Constabulary maintained by the Dominion Government. It was organized in 1873 and was then known as the North West Mounted Police; in 1904 its name was changed to the Royal Northwest Mounted Police and in 1920, to the Royal Canadian Mounted Police. In 1920, the former Dominion Police, with headquarters at Ottawa, whose duties were largely connected with guarding of public buildings in that city and Canadian Government dockyards at Halifax and Esquimalt, were absorbed by the Royal Canadian Mounted Police. From a Force of 300 men in 1873, it has grown to one of 2,500 at the present time.

The Force is controlled and administered by a Minister of the Crown (at present, the Minister of Justice) and it may be employed anywhere in Canada. It is primarily responsible for the maintenance of law and order in Yukon, the Arctic regions and the unorganized Northwest Territories; it performs a variety of services for the Dominion Government in all provnees, and a number of the Dominion Departments utilize its services in investigations and in administrative work. Among the many services rendered for the Dominion Government, the repression of the traffic in noxious drugs, the protection of government buildings and dockyards, enforcement of Dominion laws, including the Migratory Birds Convention Act, and the duties of the Preventive Service of the Department of National Revenue by air, land and sea may be mentioned.

Under the Royal Canadian Mounted Police Act, any province may enter into an agreement with the Dominion Government for the services of the Royal Canadian Mounted Police to enforce provincial laws upon payment for its services, and at the present time, such agreements are in force with the provinces of Prince Edward Island, Nova Scotia, New

Brunswick, Manitoba, Saskatchewan and Alberta.

The Force is divided into 15 divisions of varying strength distributed over the entire country. The term of engagement is 5 years for recruits with reënlistments for 1 year or 3 years. The officers are commissioned by the Crown. Recruits are trained at Regina, Saskatchewan. The course of training is six months and consists of drill, both mounted and on foot; physical training, including instruction in wrestling and boxing; and detailed lectures on police duties. Instructional courses for promotion are held and, where practicable, an annual refresher course of training is given.

National Defence

Militia.—Canada is organized in 11 military districts, each under a Commander and his District Staff.

The Militia of Canada is classified as active and reserve, and the active is subdivided into permanent and non-permanent forces. The Permanent Force consists of 14 regiments and corps of all arms of the service, with an authorized establishment limited to 10,000, but at present the strength is about 3,500. The Non-Permanent Active Militia is made up of cavalry, artillery, engineer, machine-gun, signalling, infantry and other corps. The total establishment of the Canadian Non-Permanent Active Militia totals 9,047 officers and 125,917 other ranks.

The Reserve Militia consists of such units as are named by the Governor in Council and of all able-bodied citizens between the ages of 18 and 60, with certain exemptions. The reserve of the Active Militia consists of: (1) reserve units of city and rural corps, (2) reserve depots, (3) reserve of officers.

The appropriation for the Militia for the year ending Mar. 31, 1935, is \$8.882.864, as compared with an expenditure of \$8.773,545 for the fiscal year 1933-34.

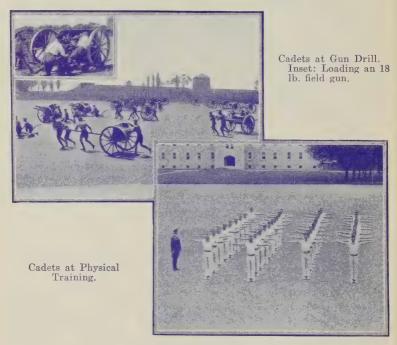
Air Force.—The Air Force in Canada consists of the Royal Canadian Air Force classified as active and reserve. The Active Air Force is subdivided into the Permanent Active Air Force and the Non-Permanent Active Air Force.

The Royal Canadian Air Force controls and administers all Air Force training and operations, and carries out operations on behalf of other

Government Departments. The Aeronautical Engineering Division of the Air Force, in addition, acts in an advisory capacity on technical matters to the Controller of Civil Aviation and to civil aviation organizations.

The strength of the Royal Canadian Air Force on Aug. 1, 1934, was 109 officers and 614 other ranks.

ROYAL MILITARY COLLEGE



Courtesy, Canadian Government Motion Picture Bureau.

The appropriation for the Royal Canadian Air Force for the fiscal year 1934-35 totalled \$1,930,000, as compared with an expenditure of \$1,402,885 in 1933-34.

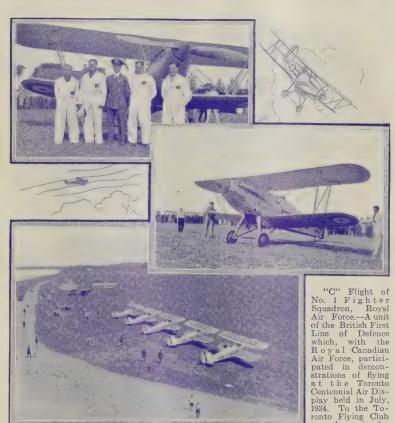
The appropriation for out-of-pocket expenses incurred by the Royal Canadian Air Force in connection with Civil Government Air Operations totalled \$120,000 for the fiscal year 1934-35, as compared with an expenditure of \$96,552 in 1933-34.

Civil Aviation.—The Controller of Civil Aviation is concerned with the administration of the Air Regulations and the control of commercial and private flying. The appropriation for civil aviation for the fiscal year 1934-35 was \$187,000.

Navy.—The Royal Canadian Navy was established in 1910. The authorized complements are: 104 officers and 812 men of the permanent force (Royal Canadian Navy); 70 officers and 430 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Reserve;

dian Naval Volunteer Reserve. Ten appointments of officers of the Royal Canadian Naval Volunteer Reserve are reserved for graduates of the Royal Military College who have had naval training during their Royal Military College course. The vessels at present maintained in commission are: the destroyers Champlain and Saguenay and the mine-sweeper Festubert, based on Halifax, N.S.; the destroyers Vancouver and Skeena and the mine-sweeper Armentières, based on Esquimalt, B.C. H.M.C. Dockyards are at Halifax and Esquimalt, having been taken over from the Imperial Government in 1910. Naval depots are maintained at both bases, and are used as training headquarters for the personnel of the R.C.N., R.C.N.R., and R.C.N.V.R.

The appropriation for naval services for 1934-35 was \$2,222,000.

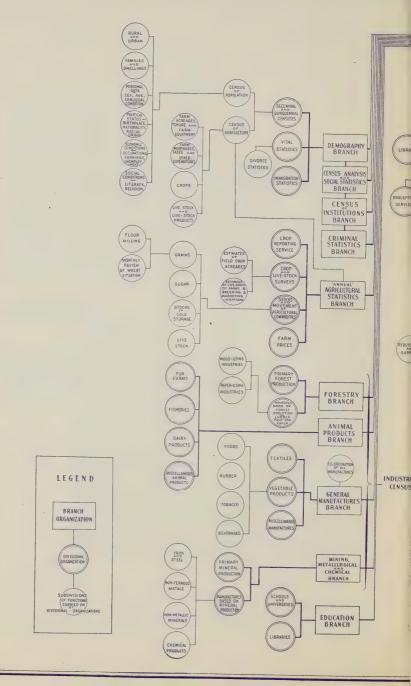


goes the praise for opening negotiations for the invitation and for much of the success of the arrangements. This was the first time a detachment of the R.A.F. had visited the Dominion and the finished skill of the personnel combined with the beauty and power of their "Fury" machines thrilled the crowds of spectators. Before returning to England the Squadron visited Ottawa.

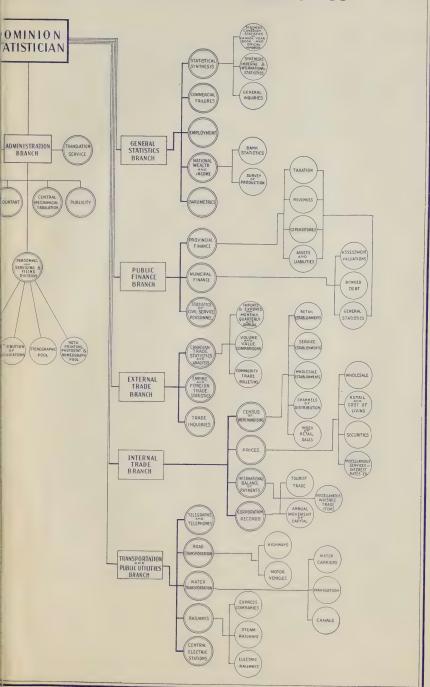
(1) The R.A.F. visitors before one of their planes at Toronto. (2) A Hawker Fury machine. (3) The five machines of the Flight lined up at Ottawa.

Courtesy, Canadian Aviation and Royal Canadian Air Force.

ORGANIZATION CHART OF THE



MINION BUREAU OF STATISTICS



APPENDIX

Official Sources of Information Relating to Canada

The official statistics of Canada are centralized under the Dominion Bureau of Statistics, which was established by special legislation in 1918 and has a universal mandate in statistics. Statistics that originate in, or are of special interest to, particular Departments are collected and published under a series of agreements between the Bureau and the Departments in question. The same method is followed in statistics originating under Provincial Governments, which in accordance with the Canadian constitution have the primary jurisdiction in certain important social and economic fields. The organization of statistics on a national scale, however, devolved upon the Dominion Government under the British North America Act,

The statistical work at present under the Bureau covers the following fields: (1) population or demography, which includes (a) the census, (b) vital statistics, and (c) the statistics of migration; (2) social statistics, which includes such subjects as criminology and education; (3) production, which includes (a) agriculture, (b) the fisheries, (c) forestry and forest industries, (d) mining and metallurgy, (e) water powers and central electric stations, (f) general manufactures, and (g) construction; (4) external trade, or the statistics of imports and exports; (5) internal trade, which includes statistics relating to the marketing of grain, livestock and animal products, wholesale and retail trading establishments, the stock markets, prices, etc.; (6) transportation and communications, which includes, railways, tramways, express companies, shipping, highways, telegraphs and telephones; (7) finance, including Dominion, provincial and municipal public finance, also currency, banking, interest and exchange.

There is, in addition, a General Statistical Branch in the Bureau which brings out several publications of an *omnibus* character, the most important being the *Canada Year Book*, a précis or compendium of all statistical data relating to the Dominion; also the *Monthly Review of Business Statistics*, summarizing the more important "barometric" figures collected in the several branches of the Bureau in succinct form and by the application of methods that assist the business community in judging of current economic trends and their probable course in the future; and the Official Handbook, *Canada*, an annual publication.

The various Departments of the Dominion Government publish valuable information, which is on the whole descriptive or technical in nature and which deals with the progress made in administration, research work of a highly scientific character or progress in their own specific fields. A brief summary of their reports follows. This is intended to direct the inquirer to the proper source from which he or she may obtain detailed information concerning a particular field of interest. Complete lists of publications may be obtained on application to the Departments concerned.

Agriculture.—Reports, bulletins and pamphlets on field crops, live stock, dairying, poultry, orchard and garden insects, plant diseases and miscellaneous topics.

Auditor-General.-Annual Report.

Board of Railway Commissioners for Canada.—Annual Report. Pamphlets on judgments, orders, regulations, etc.

 $\label{lem:civil Service Commission.} \textbf{--} Appointments, promotions, transfers, classification, regulations, examinations.}$

Dominion Fuel Board .- Reports on various fuels, methods of heating, etc.

External Affairs .- Annual Report.

Finance.—Reports on the public accounts, chartered banks, estimates.

Health .- Pamphlets on various diseases, sanitation, hygiene, etc.

Immigration and Colonization.—Information for immigrants, land settlement, farm opportunities, citizenship, various atlases, etc.

Indian Affairs.—Annual Report, etc.

Insurance.—Reports on the various kinds of insurance, loan and trust companies, etc.

Interior.—Pamphlets, reports and bulletins respecting land surveys, Canadian national parks, forestry, water powers and reclamation, Northwest Territories and Yukon, the work of the Dominion observatories, etc.

International Boundry Commission.—Reports, maps, etc.

Justice.—Annual Report on penitentiaries.

King's Printer and Controller of Stationery.—The Canada Gazette, judgments of the Board of Railway Commissioners, law reports, statutes, acts, Canadian Postal Guide, Hansard, etc.

Labour.—Information relating to labour, wages, employment, industrial disputes, combines, old age pensions, technical education, government annuities, labour organization, labour legislation, etc.

Marine.—Marine Annual Report. Lists of shipping, ports, lights, information on tides, currents, navigation, charts of coast lines, lakes, bays, harbours, etc. Radiotelegraph.

Fisheries.—Annual Report, monthly bulletin, etc.

Mines.—The Department's principal branches—Geological Survey, Mines Branch, National Museum and Explosives Division—publish reports, pamphlets, etc., covering all phases of mining from preliminary explorations and surveys of territory through the mining, milling, smelting and refining of ores to the marketing and utilization of the finished product.

National Defence.—Reports on Militia and Defence, Naval Service and Civil Aviation.

National Research Council.—Reports, bulletins, etc., on various researches.

National Revenue.—Annual Report on imports, exports, excise and income.

Post Office.—Annual Report. Postal guide, regulations, information.

Public Works .- Annual Report.

Railways and Canals.-Annual Report.

Secretary of State.—Annual Report. The Arms of Canada.

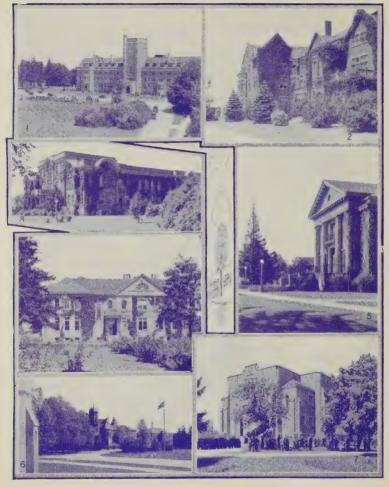
Trade and Commerce.—Annual Report. Reports of the Board of Grain Commissioners. Reports on weights and measures inspection service, gas and electricity inspection service, conferences and trade agreements. The Commercial Intelligence Service publishes a weekly Journal and various bulletins, etc., relative to trade and commerce.

Dominion Bureau of Statistics.—Census—Reports of decennial and quinquennial censuses of population and agriculture, showing population by provinces, electoral districts, cities, towns, etc., sex, age, conjugal condition, birthplaces, citizenship, year of immigration, naturalization, language, origins, religions, literacy, school attendance, dwellings, occupations, blindness, etc.—Farm holdings, farm tenures, field crops, live stock, fruits, etc.—Intercensal estimates of population. Vital Statistics—Births, deaths, marriages, divorces. Production—General summary, differentiating primary and secondary production, gross and net. Agriculture: The Monthly Bulletin of Agricultural Statistics—Reports on field crops, live stock, poultry, dairying, tobacco, fruit, honey, maple products, etc.—Reports on the marketing of grain, live stock and their products. Forestry: Reports on logging, lumber, pulp and paper, and the various wood and paper-using industries. Fisheries: Annual reports on fish caught, marketed, prepared, etc. Furs: Reports on trapping and fur farming. Mines: Monthly, semi-annual and annual reports on the various metals, non-metallic minerals, coal, structural materials, and the numerous industries based thereon. Manufactures: Reports on various manufactures classified under the headings: vegetable and animal products, textile and allied industries, wood products, iron and steel and their products, non-ferrous metal products, non-metallic mineral products, chemicals and allied products, miscellaneous. Construction: Railway, telephone and telegraph construction, government and municipal construction, ship-building, building permits, etc. External Trade—Monthly, quarterly and annual reports on imports and exports. Internal Trade—Wholesale and retail prices and the cost of living, security prices, census of trading establishments, capital movements, balances of international payments, etc. Transportation, Communications and Public Utilities—Railways, tramways, express, telegraphs, telephones, highways and mont

Daily and weekly news bulletins are issued giving the most salient facts of the reports that are currently appearing. A complete list of the publications of the Bureau may be obtained on application to the Dominion Statistician.

N.B.—A bibliography of the publications of Provincial Governments that are available for distribution, is published annually in the Canada Year Book.

DIAMOND JUBILEE (1874-1934) ONTARIO AGRICULTURAL COLLEGE



The Ontario Agricultural College was established in 1874 under the name of The Ontario School of Agriculture. Throughout the ensuing sixty years, its effective work has been greatly increased. It was affiliated with the University of Toronto in the '80's and in 1889 granted its first degrees. The layout shows: (1) The New Administration Building and Men's Dormitory.—This is the central building of the institution. It contains the Administration Offices and is also the community or social centre of the College; (2) MacDonald Hall.—This is the main girls' dormitory with accommodation for about 140 girls; (3) MacDonald Institute, which contains the offices, classrooms, etc., for the Division of Home Economics; (4) The Chemistry Building; (5) This picture gives an idea of the classic beauty of Creelman Hall where the main dining hall is situated; (6) The Library and the Biology and Physics Building; and (7) The War Memorial Hall, erected as a memorial to approximately 800 students and ex-students who enlisted in the Great War. It contains the main auditorium used for chapel services, concerts, etc. Courtesy, Director, Dept. of Agricultural Extension, Ontario Agricultural College.

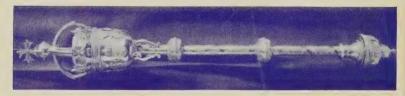
INDEX

	PAGE		Page
Aboriginal races	31	Canada Grain Act	
Accounts, Public the	141	Canada Grain Act	45
Agriculture	41	- population	21-9
- lands	41		15-20
- production		- trade, external	126
— production	48	Internat.	119
- revenue of Canada	48	— wearth and income.	33
- situation in 1934	8	Canadian panking system	150
- wealth and production	47-8	— bonds, sales of	157
— wealth and production — wealth of Canada, by provinces	47	chartered banks	150
Air mail service	118	— fishing grounds	80
— navigation	111	grain trade	44
- services	181-2	- National Railways	
Alaska boundary	19-20	- Pacific Railway.	103
Alberta, agriculture	47, 57	Pancias C.	103
— births.	29	- Pension Commission.	178
- dooths		- ranways	103-7
- deaths	29		107
- finance	145		135
- manufactures	90		74-7
- marriages	29	— wealth and income.	33-40
- minerals	68	Canals	107
- population	22	— Canadian systems	107
wealth and production	35, 37	- traffic	
Annuities Act, Government	159	Capital investments.	107-8
Area and yield of field crops	51	Cor loadings 1024	40
Automobile insurance.	154	Car loadings, 1934	11, 107
- manufacturing in dest		Census of manufactures	90
- manufacturing industry	94	Central electric stations	77
- registration	110	Chain stores	120
			174-6
Bank clearings and bank debits since			151
1924-34	153	Cheese factories	56-7
Banking	13, 150	Cities, building permits	100
- and currency	147	- nonulations of	
Bank note circulation	150	— populations of.	26
- notos		Clay products	68
— notes	149	Clearing-nouse transactions	153
Dealer de la constant	151-2	Clover production	51
— of Canada. Banks chartered, statistics of	151	Colleges and universities	169, 171
Deetroot sugar production	55	Combines Investigation Act.	159
Beets, sugar, production of	55	Commercial failures	157
Births by provinces; number in Canada	29	Commodities, prices of	123
- multiple, in Canada	30	Common stocks	122
DORFU OF CITAIN COMMISSIONERS	45	Communications, transportation and	103
Bonded indebtedness, provincial	144	Confederation, boundaries at	
municipal	146	Construction, Doundaries at	18, 19
Bonds, Canadian sales of, 1926-33	157	Construction	98
British conital in Coned-		— building permits	102
British capital in Canada	40	- contracts awarded	99
British Columbia, agriculture	47, 57	in transportation, etc	98
births	29	Convictions for criminal offences	179
deaths	29	Cost of living	124
	145	Crop of 1934	51
	81	Crops, special	55
	61	Currency and banking.	147
manufactures	90	— Canadian	147
manuactures marriages minerals	29	— historical sketch of	147
minerale	68	Custome duti-	
nonulation		Customs duties	142
population	22		
population wealth and production	35, 37		
Diffusi Empire, area and population	21	Dairy production of Canada, by prov-	
	, 133–4	inces, 1933	57
Building operations	99	Dairving Industries	55
- permits	102	Day schools of general education	170
by cities	100	Deaths, by provinces	29
value of	102	- number in Canada	29
Butter	55-6	Dobt Dominion not	
	33-0	Debt, Dominion net	141
Cablegrams	440	Department of Labour	159
Cobl-	112	Disputes, industrial	160
Cables	112	Divorces	31
Canada, agricultural co-operation in	45-7	Dominion finances, expenditure	141
production	41-9	- Government, note circulation	148
production	21	— notes, circulation of	150
— Bank of	151-2	- Relief Measures, 1934	164
- fisheries production	81-2	- revenue	141
	- A -	***************************************	TIT

	PAGE		Page
Economic areas, employment by	162	Income and production	36, 38
Education	169	Index numbers of common stocks	90, 90
Education — in Canada, 1933, statistics of	169	of complementation stocks	122
macagina of macagina		— of employment — of 20 mining stocks	162, 163
— measures of progress in	169-73	of 20 mining stocks	128
— university. Educational expenditures.	171	of retail prices	125
Educational expenditures	169	of security prices	122
- institutions	169	of wholesale prices.	124
— systems	169	Indexes of employment in manufactures	97
Electric railways, capital	109	Indian education	97 171
— miles of track	109	— echools	171
— number	109	— schools	171
number.		Indians	31
passengers	109	Industrial disputes.	160
Employment by economic areas	162	Industries founded on wood and naper	64
— by industries	163	— statistics of 25 leading	94
- by industries. - during 1933 and 1934	161	— textile	89
— index numbers of	162, 163	— textile	153
- in leading cities	163	— fire	154
Eskimos. Excise taxes. Expenditure, Dominion.	32	life	
Evere tower	142	— life	153
Tacise dates		— miscellaneous	154
Expenditure, Dominion	141	Interest rates	156
- educational	169	Internal freight movements	120
— provincial	145	- trade International payments, 1932 and 1933,	119
Experimental farms and stations, work		International payments 1932 and 1933	
of theExports	43	estimated balance of	139
Exports	11, 130	Investments in Consider Deitich and	103
- of live stock and their products		facility in Canada, Dritish and	
of live stock and their products. of newsprint. of wheat for Canada 1870-1934.	53-4	Investments in Canada, British and foreign	4(
— or newsprint	64	Iron and steel industry	92
— of wheat for Canada 1870-1934	50		
— to British and foreign countries	131	Judicial statistics	1770
Express companies	109	Judicial statistics	179
External trade	11, 126		
	11, 1=0	Labour	159
Field grope groe rield ata	49-52	in politics	160
Field crops, area, yield, etc		- movement the	159
—— of Canada, 1934	51	Lond Cottlement	
Finance	140	— in politics. — movement, the. Land Settlement. Libraries, public.	31
— Dominion. — municipal. — provincial. — public.	140	Libraries, public	173
— municipal	145	Life insurance	153
- provincial	143	Live stock and live-stock products	52-4
- public	13, 140	—— industry	52
Fire insurance	154	Loan and trust companies	155
		Lumber industry	61
Fish, game	83	Dumber madery	61
- hatcheries	84	— production. Lumbering.	
— industry	81	Lumbering	59
— trade Fisheries of Canada	82		
Fisheries of Canada	80	Maine boundary Manitoba, agriculture — births.	17
by principal kinds.by provinces.	82	Manitoba agricultura	47
- by provinces	81	hintha	29
— Government in relation to	83	- pirtus	
Floresed and distinct		- boundary	19
Flaxseed production	51	deaths	29
Flour mills in Canada	51	— finance	148
Flour mills in Canada. Foreign capital in Canada.	40	fisheries manufactures marriages.	81
- exchange non-commodity, items of	138	- manufactures	90
Forestry	9, 59	- marriages	29
Forestry Freight movements, 1934	120	- minerals	68
Fruit-growing industry	57	nonulation	22
Fur farming	87	- population wealth and production	35, 37
- forms number of	87	- wearth and production	00, 0
Fur farming — farms, number of. — modern industry.	85	Manufactures of Canada	89
- modern modstry		— census of 1932	90
— trade	87	- census of 1932 conditions during 1929-34	96
Come and seemen	100 7	— employment in	96
Game and scenery	150-7	- history of statistics of 25 leading	89
Gnent, Treaty of	17	- statistics of 25 leading	94
Ghent, Treaty of	83	- summary of statistics of	96
- Annuities Act	159	trade in	98
Grain crops	49-51	- trade in	96
— trade Growth of population	44	— summary of statistics of . — trade in. Manufacturing cities of Canada, the leading. Maple sugar and syrup.	
Growth of nonulation	22-3	leading	95
or population		Maple sugar and syrup	5.
Highway mileage open for traffic, 1934.	109	Marriages, by provinces	.23
Highways and road-		- number in Canada	29
TI Justin	109	Meat-packing and slaughtering	55
money production	55	Metals	6
Hops production	55	Metals	18
Highways and roads. Honey production. Hops production. Hospitals. Hydro-electric development.	174-6	William industry	5
Hydro-electric development	74	Willing industry	
— power production	77	Mineral products, value of	68
		- production of Canada, by provinces,	
Immigration	31	1931–33	6
Imperial postage. Imports. — from British and foreign countries	116	Military torces. Milling industry. Mineral products, value of. — production of Canada, by provinces, 1931-33. Mines and minerals, history of. — modern industry. Mining industry, employment in.	6
Imports	11, 128	- modern industry	9, 6'
- from British and foreign acceptains	128	Mining industry amployment in	69
- nom British and foreign countries		mining industry, employment in	69-7
— of wheat for Canada, 1870-1934	50	- prospecting and development work.	00 11

	PAGE		D
Miscellaneous insurance	154	Prince Edward Island death	Pag
— statistics. Montreal Stock Exchange, trade on Motor validae	174	Prince Edward Island, deaths	2
Montreal Stock Exchange, trade on		finance.	144-
Motor vehicles registered in Canada, by provinces, 1920-33. Municipal finance system of Taxation	109	— fisheries.	8
- registered in Canada by prov-	103		91
inces. 1920-33	110		29
Municipal finance	110		35, 3°
— system of Taxation	145	Production and income	35, 3
system of faxation	146	Production and income	35-40
			37, 48
National debt, 1868-1934	141		31
— defence	181	- fisheries. - forestry.	37 80
- income - Research Council	38	— forestry	37, 82 37, 60 37, 88
- Research Council	172	- fur	37, 00
— laboratories — wealth of Canada estimate of		— grain	37, 80
- Wealth of Consideration	172	— grain	49-51
	34	— manufacturing.	37, 90
Provincial distribution of	35	mining — mining — summary of Prospecting and development work (mining industry). Provincial bonded indebtedness	37, 68
	182	Bummary of	37
agriculture	47	Frospecting and development work	
- Dirths	29	(mining industry)	69
boundary	17		144
boundary. deaths.	29	- distribution of the national wealth	
	145	of Canada, 1929	35
	81	- public imance	143
forestry	61	- revenues and expenditures.	145
	90		144
marriages	29	T UDIIC ACCOUNTS	144
population	29 22		
population		— finance	13, 140
	35, 37	— Dominion. — municipal. — provincial. — health	140
Newsprint paper industry.	63-4	muncipal	145
	68	h-141	143
	138	neardi	174
Ivon-metanic minerals	68	— libraries.	173
	19	Fulp and paper industry	62-4
Notes, Dominion, circulation of	150	- production	62
Notes, Dominion, circulation of Nova Scotia, agriculture	47		
	29	0.1.1.	
deaths	29	Quebec Act	16
finance.	145		47
— fisheries.	81	- Dirths	29
forestry.	61	— boundary	20
manufactures		— deaths	29
manufactures	90		145
	29		81
	68		61
population.	22	- manufactures	90
— wealth and production	35, 37	— marriages	
		- minorale	29
Old Age Pensions Act	168	- minerals	68
Olitario, agrichienta	47	— population.	22
- births bonds, yield of	29	- wealth and production	35, 37
- bonds, yield of	156		
- deaths		Racial distribution	26
	29		113
- fisheries	145	— telegraph stations. Railway carloadings. — mileage of Canada	112
- fisheries. - forestry. - Manitaba hayada	81	Railway carloadings	11, 107
	61		107
	19	- revenues and expenses	11, 107
	90	Kallwaya earningo	107
	29	- electric. - freight.	108
	68	- freight.	107
— population. — wealth and production	22	— gross operating revenues.	
— wealth and production	35, 37	- statistics 1932, 1933 and 1934	107
		Relief Acts	107
Paper industry	69	Religious denominations in Canada,	167
- production	63	religious denominations in Canada,	
— production Paris, Treaty of Pelts, numbers and values	63-4	membership of eight leading, by	
Polte numbers and l	15-6	provinces	28
	85	provinces. Resources, forest. Retail prices, index number.	59
Police statistics	180	Retail prices, index number	125
Population, growth of.	. 22	— trade Returned Soldiers' Insurance	119
- Instory of	22	Returned Soldiers' Insurance	178
or Canada	22	Revenue, agricultural	47-8
of cities and towns having over		— Dominion	141-2
- history of. of Canada. of cities and towns having over 15,000 inhabitants.	26		145-6
of the British Empire. — rural and urban.	21	provincial. receipts, Dominion of Canada Roads and highways. avronditure.	143-5
rural and urban	23	- receipts, Dominion of Canada	142
Post Office	116	Roads and highways	109
Poultry farming	55	- expenditure on	109
Prices of commodities	123	expenditure on	
Primary Industries of Canada	35	Royal Canadian Mounted Police	180
Poultry farming. Prices of commodities Primary Industries of Canada. Prince Edward Island, agriculture. — births	47	Royal Commission on Transportation.	106
births	29	Rural and urban population	23
Car billo	29	— mail delivery	116

	PAGE		PAGE
St. Lawrence Waterway	108	Trade of Canada with the British	
Saskatchewan, agriculture	47, 57	Empire and foreign countries	127
— births	29	- of principal countries	135
— deaths	29	- staples of	
— finance	145	- total	125, 131
— manufactures	90	- tourist, aggregate	138
- marriages	29	- uniong ungernlasses and in	
— marriages — population	22	- unions, unemployment in	164
— wealth and production		- Unionism in Canada	159
Sawmill products in Canada, by prov-	35, 37	- wholesale and retail	119
inger in canada, by prov-	0.1	Transportation and communications	103
inces	61	- and public utilities	98
Sawmilling industry	59-62	- Royal Commission on	106
Sex distribution of the population	29	Trust and loan companies	155
Schools, see "Education"	169		
Security prices, 1930-34.	122	Unemployment in Trade Unions	164
Shipbuilding industry	112	- relief	165
Shipping, entered and cleared	112	Unions, trade, organizations of	159
— inland	112	- trade, unemployment in	164
ocean	112	United States, trade with the	127
Slaughtering and meat packing	53	Universities and Colleges	
Stock markets	121	Universities and Coneges	171
Sugar beet crop	55	University education	
		Urban and rural population	23
Taxation, Dominion	142-3	Utrecht, Treaty of	15
- municipal system of	146		
— municipal system of	142	Value of production in Canada, sum-	
recent changes in	143	mary by industries	37
Telegraphs	112	by provinces	37
Telephones	112	Values of field crops	51
companies	112	Vehicles, motor	109
— companies. — development.	112	Versailles, Treaty of	16
Textile industries	89-97	Vorsamos, Troaty of	10
Timber in dustres		WAY TO 1	
Timber industry	59	War Pensions	177
Tobacco crop.	55	War Veterans' Allowance Committee	178
Tourist expenditures, 1926-33	138	Water power, development in Canada.	74
trade	138	—— expansion of, in 1934	74-5
Trade, aggregate	126-8	Wealth, survey of Canadian	33
— analysis of current	126-8	Welfare of Veterans	177
— balance of — balances of the principal countries of	11, 135	Welland Ship Canal, the new	108
 balances of the principal countries of 		Wheat	50
the world, 1932 and 1933	135	Wholesale and retail trade	119
export.	130	— prices, index numbers of	124
- external	126	Wood pulp production	62
— grain	44	Woods operations	59
import	128		00
- internal	119	Yields of Ontario Bonds, 1927-1934	156
		2-0-00 01 01100100 100100, 1001-1001	100



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